



## Witness Operators Manual



Cambridge Business Park  
Cowley Road  
Cambridge CB4 0WZ  
United Kingdom

Tel: +44 (0) 1223 488540  
Fax: +44 (0) 1223 488541  
Email: [info\\_uk@neurodynamics.com](mailto:info_uk@neurodynamics.com)  
Web: [www.neurodynamics.com](http://www.neurodynamics.com)

# Table of Contents

Section	Page
<b>1 Introduction.....</b>	<b>3</b>
<b>2 Password Entry .....</b>	<b>4</b>
2.1 Password Levels.....	4
<b>3 Main Screen Layout.....</b>	<b>6</b>
3.1 Log off.....	6
3.2 User Time Remaining .....	6
3.3 Status Messaging .....	7
<b>4 Viewing Images.....</b>	<b>8</b>
4.1 Selecting Live Images.....	8
4.2 Increasing the Size of the Image .....	8
4.3 Multi Screen Feature .....	9
4.3.1 Multiview Control .....	11
<b>5 Viewing Stored Images.....</b>	<b>12</b>
5.1 Searching for Stored Images .....	12
5.2 Control Playing of Stored Images .....	12
5.3 Earliest and Latest Times .....	12
5.4 Data Tagged Images .....	13
5.5 Recalling Previous Searches.....	13
<b>6 Main Screen Features .....</b>	<b>14</b>
6.1 Saving Images to Removable Disk or Archive.....	14
6.2 Printing Images .....	14
6.3 Streamed Images .....	14
<b>7 User Options and Recent Searches .....</b>	<b>18</b>
7.1 Snap Shot Archived Images .....	19

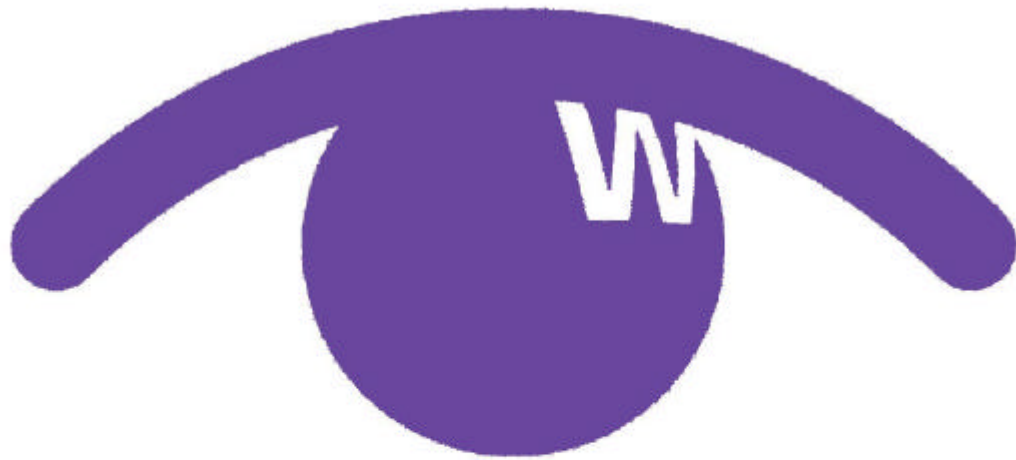
<b>7.2</b>	<b>Streamed Images .....</b>	<b>20</b>
<b>7.3</b>	<b>Event Viewer .....</b>	<b>21</b>
<b>7.4</b>	<b>Recent Events and Alarms .....</b>	<b>23</b>
<b>8</b>	<b>Engineering Functions .....</b>	<b>24</b>
<b>8.1</b>	<b>System Configuration .....</b>	<b>24</b>
8.1.1	Storage Settings .....	24
8.1.2	Video Motion Detection .....	25
8.1.2.1	Create Mask .....	26
8.1.2.2	Set Target Size.....	26
8.1.2.3	Set Trigger Thresholds .....	26
8.1.2.4	Motion Threshold .....	27
8.1.2.5	Minimum Target Areas .....	27
8.1.2.6	Max Total Areas .....	27
8.1.2.7	Min Pixel Average.....	27
8.1.2.8	Max Average Change.....	27
8.1.2.9	Sequential Trigger Count.....	27
8.1.2.10	Noise Filters .....	27
8.1.2.11	Test Settings .....	27
8.1.2.12	Save Settings .....	28
8.1.3	Cameras .....	28
8.1.3.1	Pre Event – (Not installed as standard).....	29
8.1.3.2	Remove .....	29
8.1.3.3	Re-Name.....	29
8.1.3.4	Add New .....	29
8.1.3.5	Picture .....	30
8.1.4	Alarm Management.....	31
8.1.4.1	Alarm Management and Priorities .....	31
8.1.4.2	Capture Sequence .....	32
8.1.4.3	PTZ Commands .....	32
8.1.4.4	Dial-Up Behaviour .....	32
8.1.4.5	Output .....	32
<b>8.2</b>	<b>Player Settings .....</b>	<b>33</b>
8.2.1	General 1.....	33
8.2.2	General 2.....	34
8.2.3	Dial-Up/Email .....	35
8.2.4	User Time .....	36
8.2.5	PTZ.....	37
8.2.6	Image Data.....	38
<b>8.3</b>	<b>Shutdown .....</b>	<b>38</b>
<b>8.4</b>	<b>DOS Prompt.....</b>	<b>39</b>
<b>8.5</b>	<b>Auxiliary Output .....</b>	<b>39</b>
<b>8.6</b>	<b>PTZ set-up.....</b>	<b>40</b>
<b>9</b>	<b>Administration .....</b>	<b>41</b>
<b>9.1</b>	<b>Administration Facilities .....</b>	<b>41</b>
<b>9.2</b>	<b>Adding a New User to the System.....</b>	<b>42</b>

<b>9.3</b>	<b>Deleting a User .....</b>	<b>42</b>
<b>9.4</b>	<b>Editing User Settings .....</b>	<b>42</b>
<b>9.5</b>	<b>Setting the System Time .....</b>	<b>42</b>
<b>9.6</b>	<b>Changing the Timer Key .....</b>	<b>43</b>
<b>9.7</b>	<b>Shutdown .....</b>	<b>43</b>
<b>9.8</b>	<b>Disable All Capture.....</b>	<b>43</b>
<b>9.9</b>	<b>Enable Capture .....</b>	<b>43</b>
<b>9.10</b>	<b>System License .....</b>	<b>43</b>
<b>9.11</b>	<b>View User Log.....</b>	<b>44</b>
<b>9.12</b>	<b>File View .....</b>	<b>45</b>
<b>10</b>	<b>Master and Slave Systems.....</b>	<b>46</b>
<b>10.1</b>	<b>Slave Main Screen .....</b>	<b>47</b>
<b>11</b>	<b>Remote Connectivity .....</b>	<b>48</b>
<b>11.1</b>	<b>Connecting to a Remote Site .....</b>	<b>48</b>
<b>11.2</b>	<b>Adding Sites to a Remote System .....</b>	<b>48</b>
<b>11.3</b>	<b>Network Settings and Dial Up Networking.....</b>	<b>49</b>
11.3.1	Setting up Remote Access Server .....	50
11.3.2	Remote or Monitoring Systems .....	54
<b>12</b>	<b>CD-Rs and CD-RWs.....</b>	<b>56</b>
<b>12.1</b>	<b>Formatting a CD-R/RW before streaming images to CD .....</b>	<b>56</b>
<b>12.2</b>	<b>Ejecting CDs.....</b>	<b>59</b>
<b>13</b>	<b>I/O Connector Details.....</b>	<b>60</b>
<b>13.1</b>	<b>Digital Inputs .....</b>	<b>60</b>
<b>13.2</b>	<b>Digital Outputs.....</b>	<b>60</b>
<b>14</b>	<b>Installing Cameras .....</b>	<b>61</b>
<b>15</b>	<b>Glossary.....</b>	<b>62</b>



# Table of figures

Figure		Page
Figure 1	Introduction Screen.....	3
Figure 2	Password Entry Screen.....	4
Figure 3	Main screen layout.....	6
Figure 4	The Magnified Screen for Enlarged Images .....	9
Figure 5	Multi-screen view .....	10
Figure 6	MultiView Control .....	11
Figure 7	Saving images to SnapShot archive screen .....	14
Figure 8	Choosing your location for a streamed event screen .....	15
Figure 9	Event naming screen.....	16
Figure 10	Streaming End Time Selection .....	16
Figure 11	Streamed Event Recording mode screen .....	17
Figure 12	Snap Shot Archived image playback screen.....	19
Figure 13	Streamed Image player .....	20
Figure 14	Event viewer search screen.....	21
Figure 15	Event viewer main screen.....	22
Figure 16	Video Motion Detection screen.....	26
Figure 17	Video Motion Detection test screen.....	28
Figure 18	Camera management screen.....	29
Figure 19	Brightness and Contrast.....	30
Figure 20	Alarm management screen.....	31
Figure 21	General 1 .....	33
Figure 22	General 2.....	34
Figure 23	Dial-Up/Email .....	35
Figure 24	User time.....	36
Figure 25	Pan, Tilt and Zoom (PTZ) Enable .....	37
Figure 26	Image data .....	38
Figure 27	Admin screen .....	41
Figure 28	Master and Slave Systems.....	46
Figure 29	Checker.....	47
Figure 30	Connecting to a remote site.....	48
Figure 31	Site Configuration Screen.....	49
Figure 32	Network Neighbourhood screen .....	50
Figure 33	Network Connection Wizard .....	51
Figure 34	Wizard – Network Connection Type .....	51
Figure 35	Wizard - Devices for Incoming Connections .....	52
Figure 36	Wizard - Incoming Virtual Private Connection.....	52
Figure 37	Wizard – Allowed Users.....	53
Figure 38	Wizard – Incoming TCP/IP Properties .....	53
Figure 39	Completing the Network Connection Wizard .....	54
Figure 40	Modem Properties.....	55
Figure 41	Eject CD.....	59
Figure 42	The back of the Witness system.....	61



# Witness

This is a class A product. In a domestic environment it may cause interference, in which case the user may be required to take adequate measures.



# 1 Introduction

Witness is a Digital Video Recording system which takes the operation of CCTV recording to a new level of advanced performance. Witness can be used as an event, 'time lapse' or real time recorder, storing images to hard disc or using many archive media.

Witness allows users to review both recorded and 'live' images while the system is still actively recording. The system is designed to operate on a stand-alone basis without the need for any operator intervention. Most systems require only minimum maintenance and no daily or weekly tape management.

**Figure 1** Introduction Screen



## 2 Password Entry

Figure 2 Password Entry Screen



To get to this screen left click the mouse in the centre of the Witness eye on the introduction screen. This will reveal the Sign-on fields. Type in your **Username** and **Password** in the appropriate fields, then select the site you wish to view by clicking on the down arrow underneath the “**Enter**” button. This will reveal a list of sites from which you are able to view images.

Refer to section 2.1 for password entry levels.

When entering your password you will only see asterisk (\*) characters in order to keep your password confidential. Complete the process by clicking on the Enter button. If you do not know your password please speak to your Administrator. All data can be input in upper or lower case but without the use of spaces in any fields. If you are not successful with your password entry please contact your Administrator.

### 2.1 Password Levels

Multiple levels of security protect the Witness system. One of these levels is password protection for all users of the system. Password protection helps prevent unauthorised users accessing the system and allows authorized users multiple levels of access and privileges depending on their authority.

The Password levels include:

1. Engineer – full access to system configuration facilities
2. Supervisor – ability to add and delete users and change passwords for all except the engineer
3. Administrator – ability to add and delete users and change passwords for all except the engineer and supervisor
4. User – ability to view images

There are two other password access levels known as Monitor and Shutdown. These Password levels can be activated according to your requirements.

### 3 Main Screen Layout

Figure 3 Main screen layout



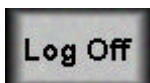
This is the Main screen where you can access all the features of your Witness system.

See page 12 for details of the video controls.

See page 12 for details about time searching, and from page 18 for event searching.

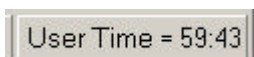
See from page 14 for details about the buttons under each view for streaming, printing, bitmap saving and zooming.

#### 3.1 Log off



When you have finished using the system you exit by clicking on the **Log Off** button located at the bottom right of the screen. This will terminate your review session and take you back to the password entry screen.

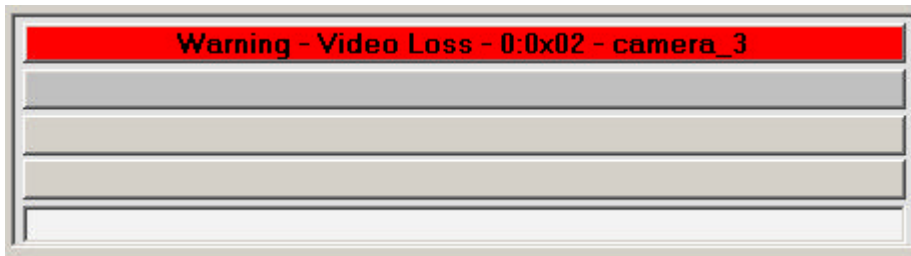
#### 3.2 User Time Remaining



At the bottom of the screen is a timer set to an agreed level of usage time. This is not a limit to your viewing time but a security fail-safe. The system administrator can change the time (see section 8.2.4). In the final 10 seconds a warning will appear. To continue

using the system the user must press the agreed key combination set by administrator (see section 9.6). By default this is “**Shift-T**”.

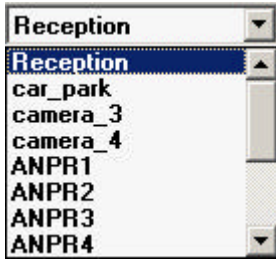
### 3.3 Status Messaging



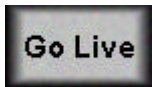
**Status Messaging** advises you of warnings and errors on the system. Warnings will advise of operating details and should be noted while errors should be communicated urgently to your servicing agent.

## 4 Viewing Images

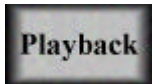
### 4.1 Selecting Live Images



Select the camera you wish to view in both the left and right hand review windows by clicking on the down arrow next to the camera name.



Then select the **Go Live** button at the bottom right of the screen to view images from your chosen cameras. Live images will then be shown from these cameras.



To return to video mode click on the **Playback** button located in place of **Go Live** at the bottom right of the screen.

### 4.2 Increasing the Size of the Image



This button allows you to obtain an enlarged view of the images displayed in each viewing screen. Just select the **Magnifying Glass** button below your chosen image and click with the mouse. The image will be enlarged - see Figure 4 below. Whilst using this feature, the second viewing screen cannot be seen.

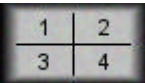
Figure 4 The Magnified Screen for Enlarged Images



This is a special case of the multi-screen feature. See section 4.3 for details.

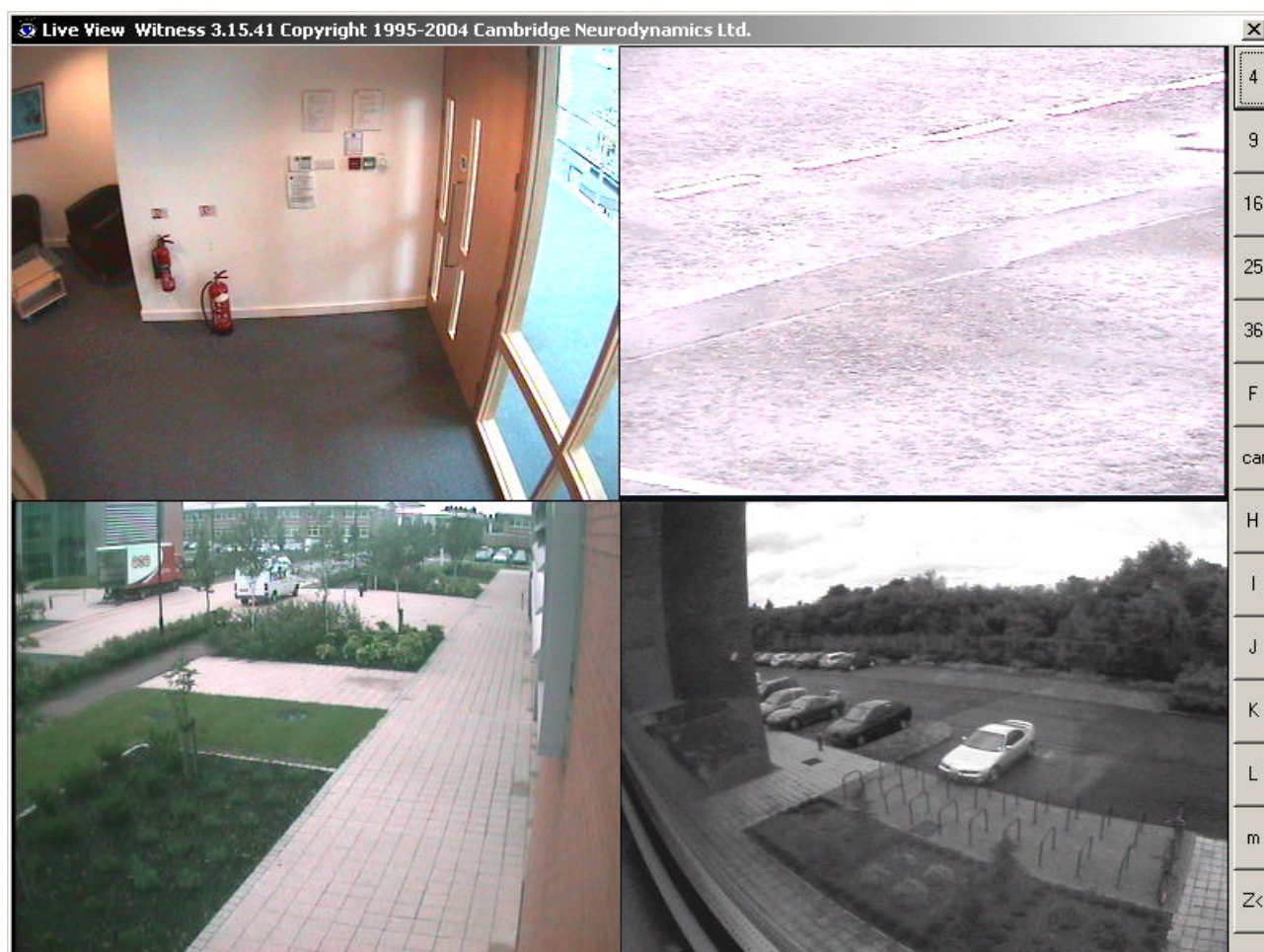
To quit this screen and return to the Main Screen click the 'X' at the top right hand side.

4.3 Multi Screen Feature



The multi-screen button allows you to view up to 36 cameras at one time on a single screen. The screen below shows the multi-screen layout.

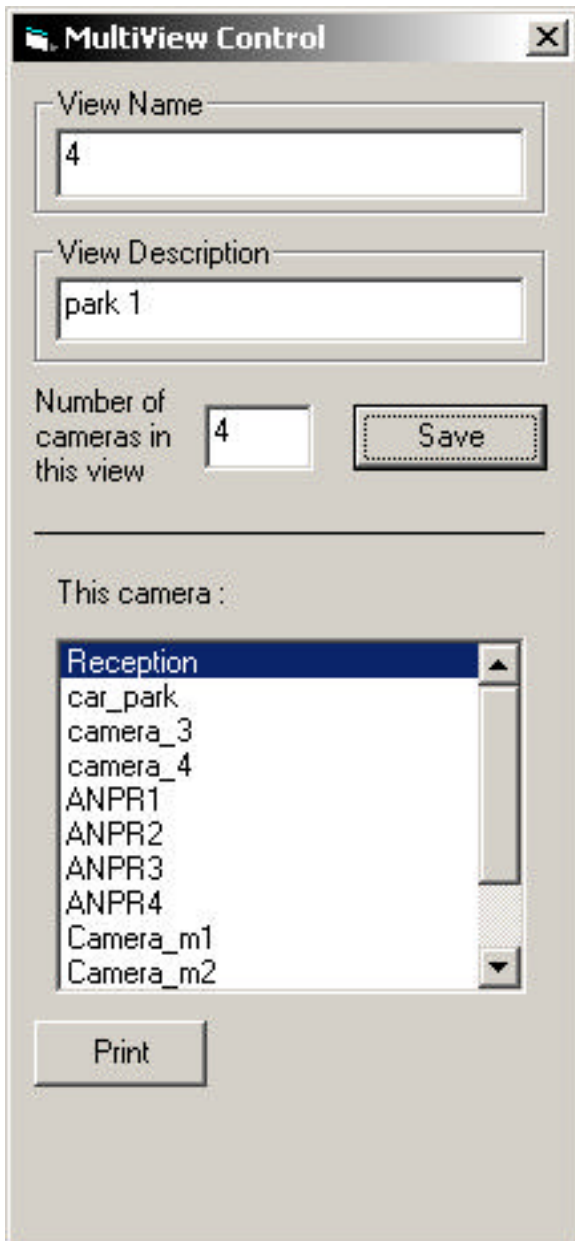


**Figure 5 Multi-screen view**

The buttons on the right are definable views. By default the first 5 view buttons display the first 4, 9, 16, 25 and 36 cameras. By clicking on the number 4, you will view four cameras; by clicking on 9 you will view 9 cameras and so on.



### 4.3.1 Multiview Control



MultiView Control

View Name  
4

View Description  
park 1

Number of cameras in this view  
4

Save

This camera :

- Reception
- car\_park
- camera\_3
- camera\_4
- ANPR1
- ANPR2
- ANPR3
- ANPR4
- Camera\_m1
- Camera\_m2

Print

To add views of different cameras right click on the window you would like the view to appear in. You will see a Multiview control box appear. This contains a list of cameras that can be selected. Once you have selected which cameras appear in each view you can then give it a View Name. When you are happy with your selections click save. Your customised view will now be available every time you select Multi View.

**Figure 6**      **Multiview Control**

Left Click 'X' to return to the main screen after saving your changes

## 5 Viewing Stored Images

### 5.1 Searching for Stored Images



The 'Time Select' dialog box contains several input fields for date and time. The 'Year' field is a dropdown menu showing '2004'. The 'Month' field is a dropdown menu showing 'August'. The 'Date' field is a dropdown menu showing '09'. The 'Hour' field is a dropdown menu showing '15'. The 'Min' field is a dropdown menu showing '07'. The 'Sec' field is a dropdown menu showing '44'. Below these fields is a section titled 'User Options and Recent Searches' which includes a dropdown menu labeled 'Recent Searches' and a 'Find' button.

To find the stored images you want to view, select the year followed by the month and day by using your mouse in the **Time Select** area. Click on the down arrows and select from the lists generated. You are not required to go to the minute or second fields unless you wish to do a more detailed search. Once the time is selected click on the **Find** button. The find button will turn green and you will then be presented with the closest images to the date and time requested. The system searches 24 hours each side of the time selected for the chosen camera. If no images are found a message will be displayed. The default date and time shown in the box is that of the most recent image stored on the system.

### 5.2 Control Playing of Stored Images



Stored images are viewed by use of the Video Controls. Once you have selected which camera(s) you would like to view and made your time selection in the Time Select box (see section 5.1), the images will play automatically.

From left to right the controls are: Fast Rewind, Play Backwards, Single Step Backwards, Pause, Single Step Forwards, Play Forwards, and Fast Forwards.

The Faster and Slower buttons can be used to slow down and speed up image play. If playing every image is still not fast enough then use the fast forwards and fast rewind to play 1 image out of every 12.

Note: You must be in playback mode to view stored images

### 5.3 Earliest and Latest Times



Each camera has a tag with the times of the first and last recorded image. The tags are a guide to the recording limit of each camera and provide an at-a-glance reminder when searching for images.

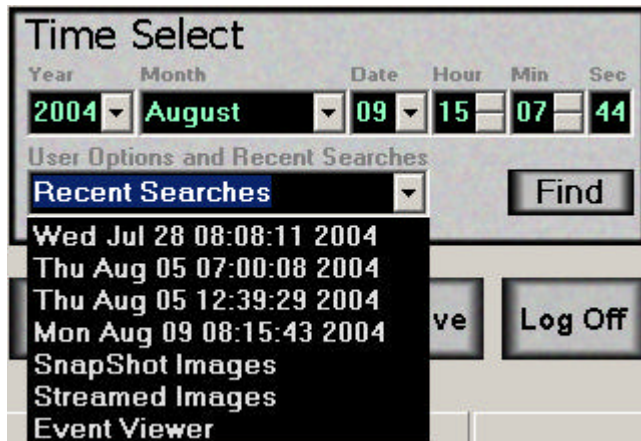
Clicking on the first or last time will take you to that image automatically without having to do a search.

## 5.4 Data Tagged Images

0  
VMD  
{START}

Data Fields appear at the bottom left corner of the screen when activated. This feature gives you the ability to search the system for images with data. This data could be till, number plate or access control based (Video Motion Detection in this example). This is configured in section 8.2.6 Image Data.

## 5.5 Recalling Previous Searches



Each time you conduct a search for images the details of the search are logged to your user name and listed under Recent **Searches**. Your four most recent searches will be listed within the recent search selector. Click on the down arrow and select the previous search that you wish to view again. Then click on the find button to play the images. This helps save time when searching for an incident that requires repeated viewing. To save important images that you do not wish to lose, use the Save functions. (See section 8.3)

Listed below the recent searches will be **Streamed Images (See section 7.2)** and **SnapShot Images (See section 7.1)** (These options will only be listed if they have been set-up on the system, see section 13 for details)

## 6 Main Screen Features

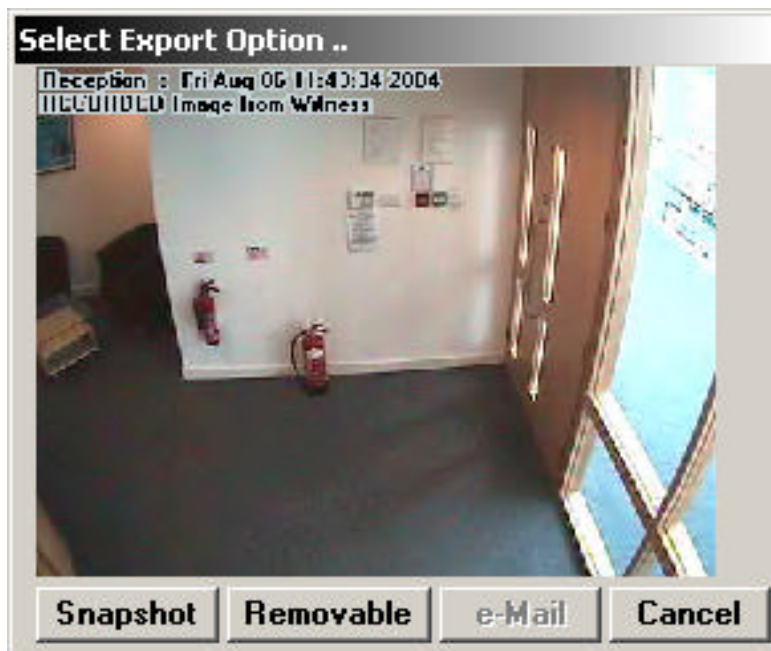
### 6.1 Saving Images to Removable Disk or Archive



Images stored on the system can be saved to removable media, such as a CD-R or floppy disk, and used in PC software packages such as Microsoft Word. A floppy disk will store three images. To save the image displayed within the Video Review screen simply select the corresponding save button below the image and click with the mouse. The available save options will then be displayed. Select floppy and then OK to accept and complete the task. Images are stored as bitmap files for easy export.

Images stored on this system can also be saved to an image archive within the system. The archive is a separate area of the hard disk. Click on the floppy icon and then select the **SnapShot Archive** function.

Figure 7 Saving images to SnapShot archive screen



### 6.2 Printing Images



Images stored on the system can be printed directly to the printer connected to the system. To Print images displayed within the Review window simply select the corresponding Print button below the image and click with the mouse. The print data relating to this image will then be displayed and you will be given the opportunity to add your own comments to describe the action within the image. Click on OK to accept and complete.

### 6.3 Streamed Images



The **Streamed Images** function enables a quick and easy transfer of recorded images to portable media (i.e. CD-R) or to a permanent storage file on the hard disk. Click on the icon to choose the directory in which you wish to store the images and select OK. If you are logged on as Admin/User the streaming folder will be the default as set up by the Engineer.

- Select the time of the event in the Time Select box
- Choose which camera(s) have recorded the event and select either 1 or 2 cameras in the default window views (cameras m1 and m3 are selected in the example below)
- Click on the yellow folder icon

**Figure 8** Choosing your location for a streamed event screen

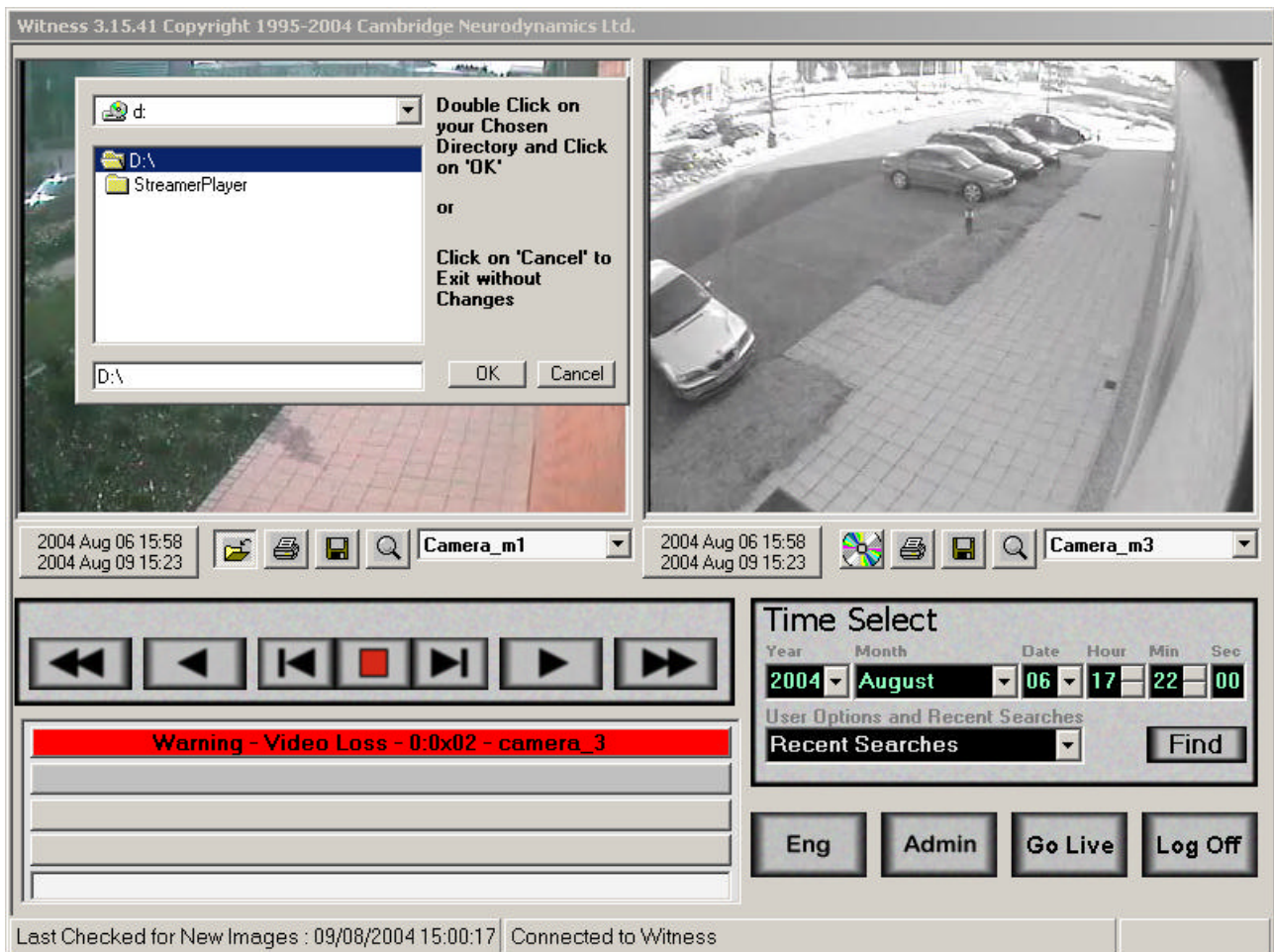




Figure 9 Event naming screen

**Type in a Name for this Stream Event**  
(or select one of the existing Events to append to)

Event Name:  
**Car arriving**

Additional Details :  
Site Name : Witness  
Saved By : ENGINEER  
Saved On : 09/08/2004 15:25:07  
Saved From Site : Witness

OK Cancel

Once you have selected your streaming folder (if this option is available) you will be able to give your event a unique name. The character limit is 255. This can be a combination of letters and figures e.g. car theft 12-05-2004

*When naming streamed events the following symbols must not be used: / \ | ( ) < > .*

A space will create an automatic underscore \_.

The additional details box gives you information on the site name, who saved the event, the time saved and the site the save was initiated from (if being used from a remote site).

Figure 10 Streaming End Time Selection

**Date and Time**

**Select end time**

August 2004

Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

**Today: 09/08/2004**

17 : 22 : 00

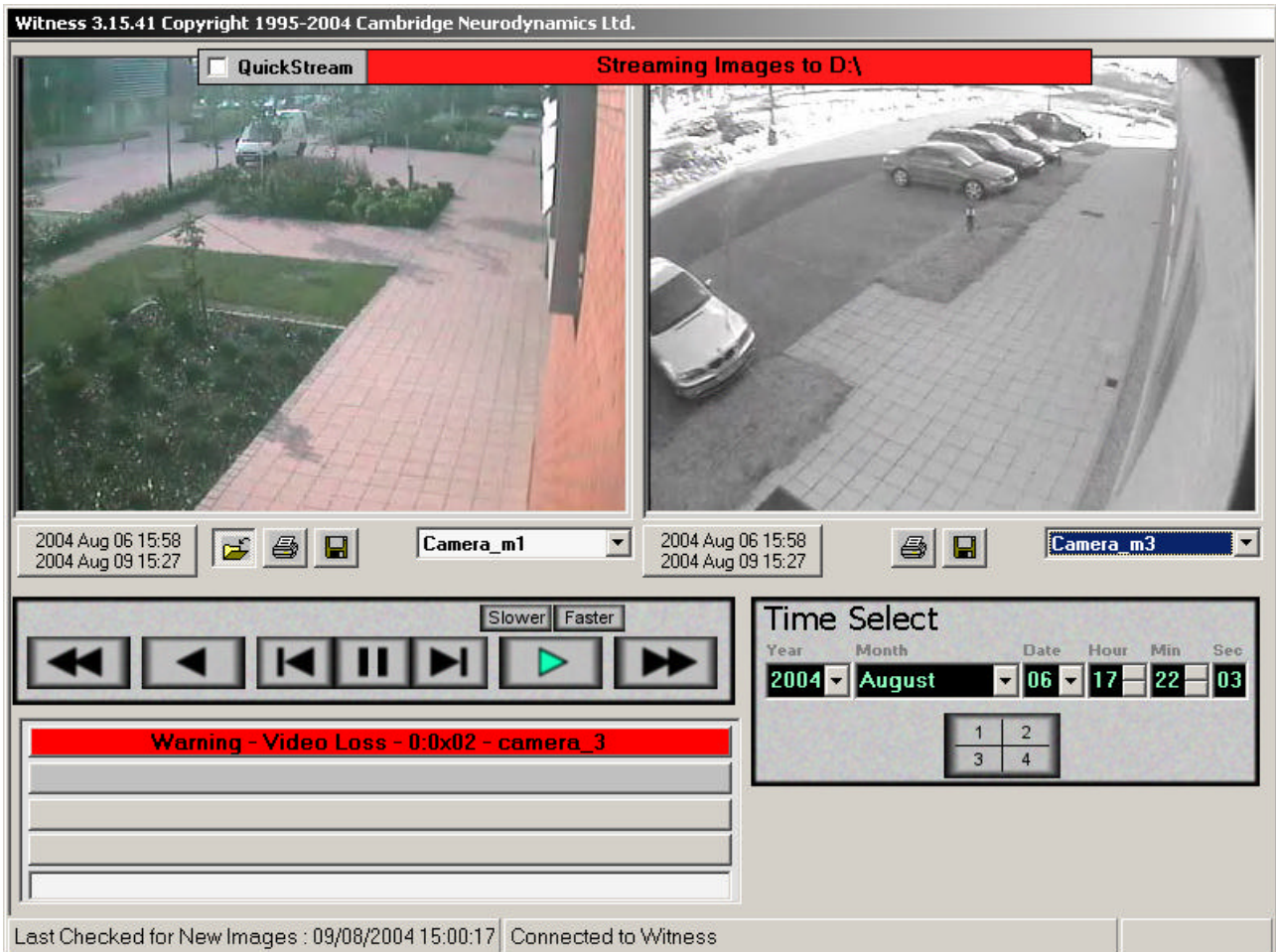
OK Cancel

Once you have chosen an event name, the system will ask for a time and date to automatically stop streaming. Select "Cancel" to skip this feature, or

select a time and a date, and the streaming session will automatically stop when this time is reached.

The system is now ready to record your event stream.

**Figure 11** Streamed Event Recording mode screen



While the system is in Streaming mode it will show the streaming location in the red bar at the top of the screen. Whatever you play on the video controls will be recorded as the event. Press "Play" to stream the event.

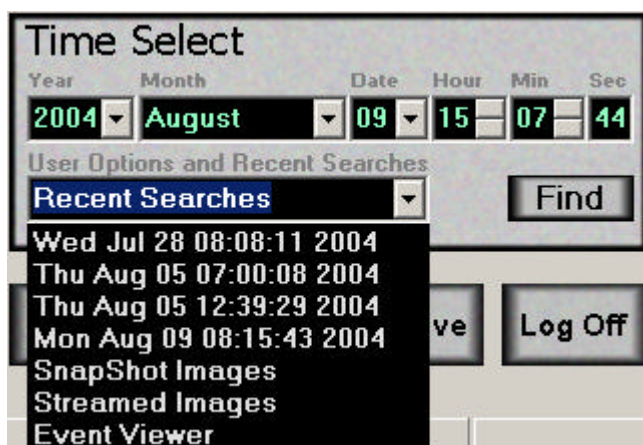
Camera selection can be changed while in the middle of an event. When the pause button is clicked the system will still be in Streaming mode.

When the QuickStream bar at the top of the screen is selected by clicking in the box to the left of QuickStream this will record at a much faster rate. Please note: When the QuickStream feature is enabled the user will not be able to see images being streamed and so it may be useful to make a note of the required 'stop' time and use the automatic end time feature above.



To end Streaming mode click the Yellow Folder icon again.

## 7 User Options and Recent Searches



In User Options and Recent Searches you are able to:

- Access up to 4 recent searches quickly
- View SnapShot images
- View Streamed events
- Access Event Viewer
- View the On-line manual

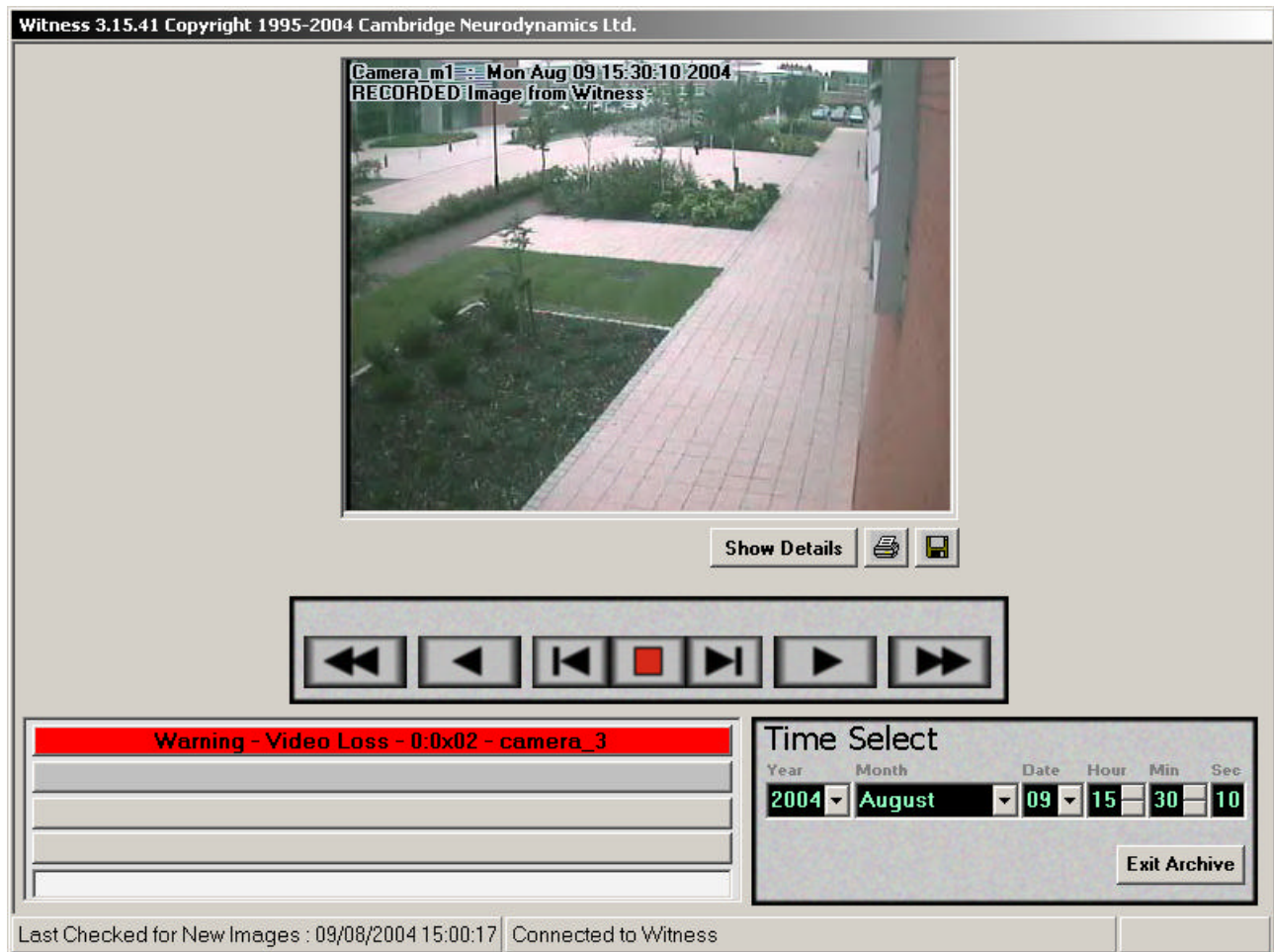


## 7.1 Snap Shot Archived Images

Snap Shot Images enables you to play through all the images that are saved in the Snap Shot Image location. Individual images can also be saved to Floppy disk.

Note: To define the maximum number of images that may be saved in the archive, refer to section 8.2.2.

Figure 12 Snap Shot Archived image playback screen

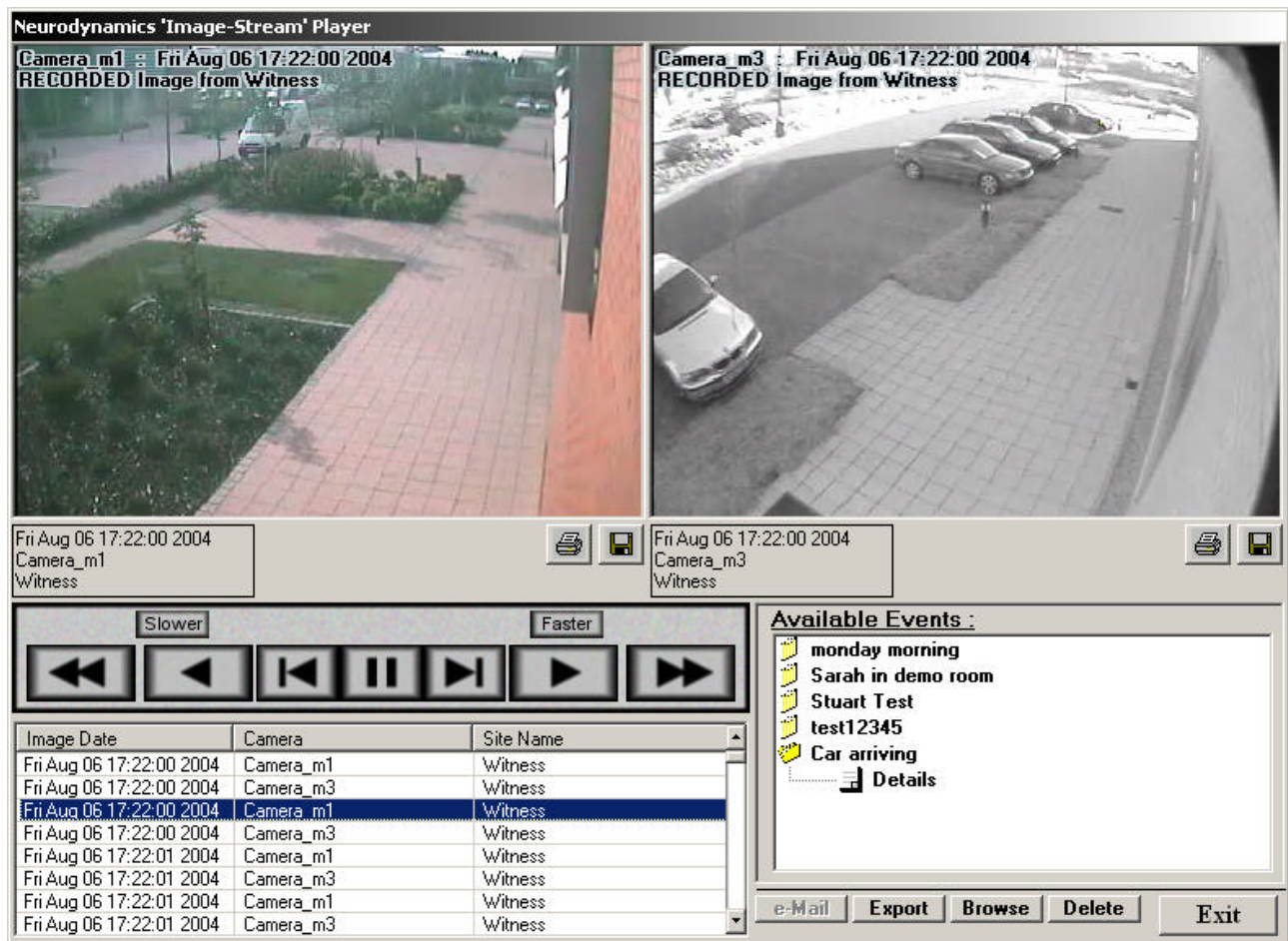


## 7.2 Streamed Images

Streamed Images enable you to view streamed events. The controls are the same as Play Mode. If you are logged in as Engineer then you can browse to a location that has streamed images. Events may be exported to another location if required with the export button. You may also delete old events that are no longer required with the delete button.

The e-mail button sends a .BMP image, providing a dial up account is present on the Witness system. Single images can be saved to disk with the Floppy icon.

**Figure 13** Streamed Image player



### 7.3 Event Viewer

The Witness event viewer allows the user to review images and/or video sequences which have been recorded as a result of (or through association with) a specific 'trigger' or event. Examples of such a trigger might be Video Motion Detection (VMD), an external trigger such as a PIR, or a data trigger from an external system.

**Figure 14** Event viewer search screen

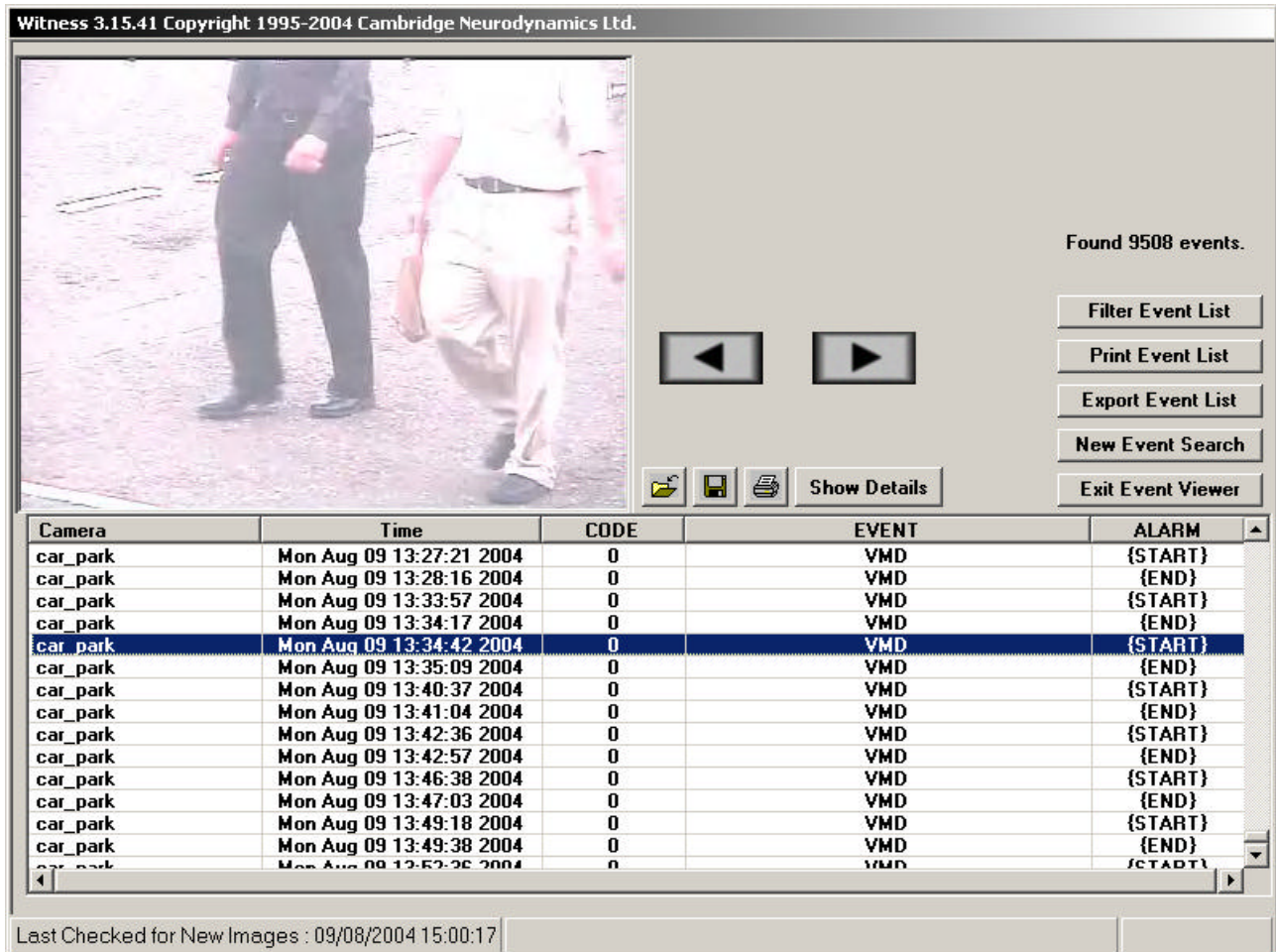
Click on 'event viewer' from the drop down user options and recent searches bar

- For VMD searches enter VMD into the 'Event' field of the associated data section. Leave the other fields blank
- For ANPR searches enter ANPR into the 'Event' field, or a number plate into the 'Alarm' field. Leave the other fields blank
- For Digital searches enter DIGITAL into the 'Event' field of the associated data section. Leave the other fields blank

Use 'Camera Selection' and 'Date Selection' to complete the criterion for your search.

The Associated Data boxes will not necessarily have the same titles as the above diagram on your Witness system. This information is configurable in Image data (See section 8.2.6)

Figure 15 Event viewer main screen



Once the details have been found you can click on any reference to view that particular image.

As with the main screen, you can play backwards and forwards from the selected event, save or print the image, or stream the event.

The list of events found can be further filter, printed out or saved to a CSV file (in comma separated values).

To exit Event Viewer Click Exit Event Viewer

## 7.4 Recent Events and Alarms

When logging onto Witness you will see the Recent Events and Alarms screen



For VMD Trigger information click on VMD Triggers

For ANPR Triggers click on Other Events

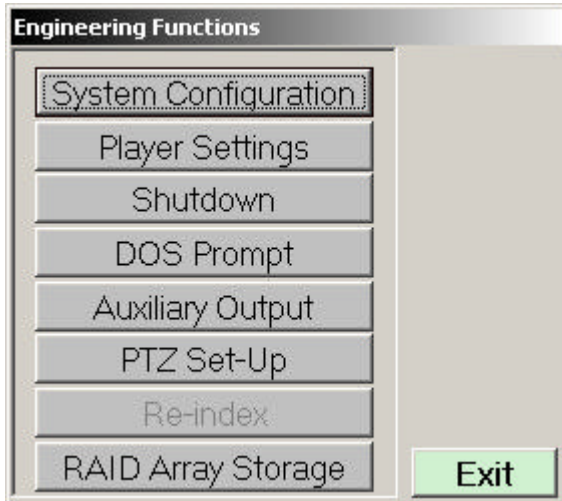
For Digital triggers (e.g. PIR detectors) click Digital Triggers.



## 8 Engineering Functions

**Eng**

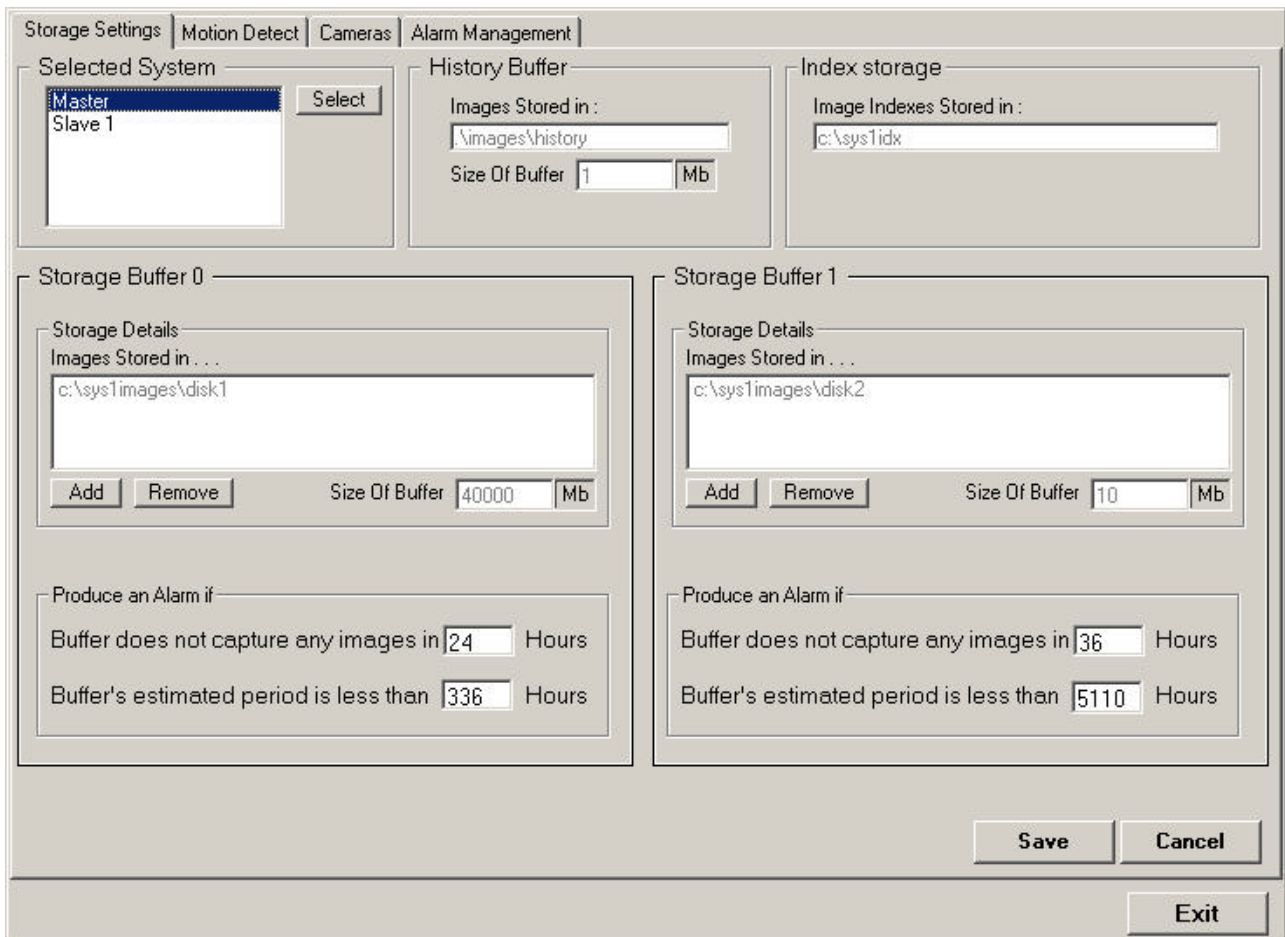
The **Eng** button gives access to the **Engineering** functions of the system. These functions set up the effective operation of the unit. This button is only available when logged on with the Engineer's password.



### 8.1 System Configuration

#### 8.1.1 Storage Settings

Storage settings are configured for optimum performance by Neurodynamics and cannot be changed.



### 8.1.2 Video Motion Detection

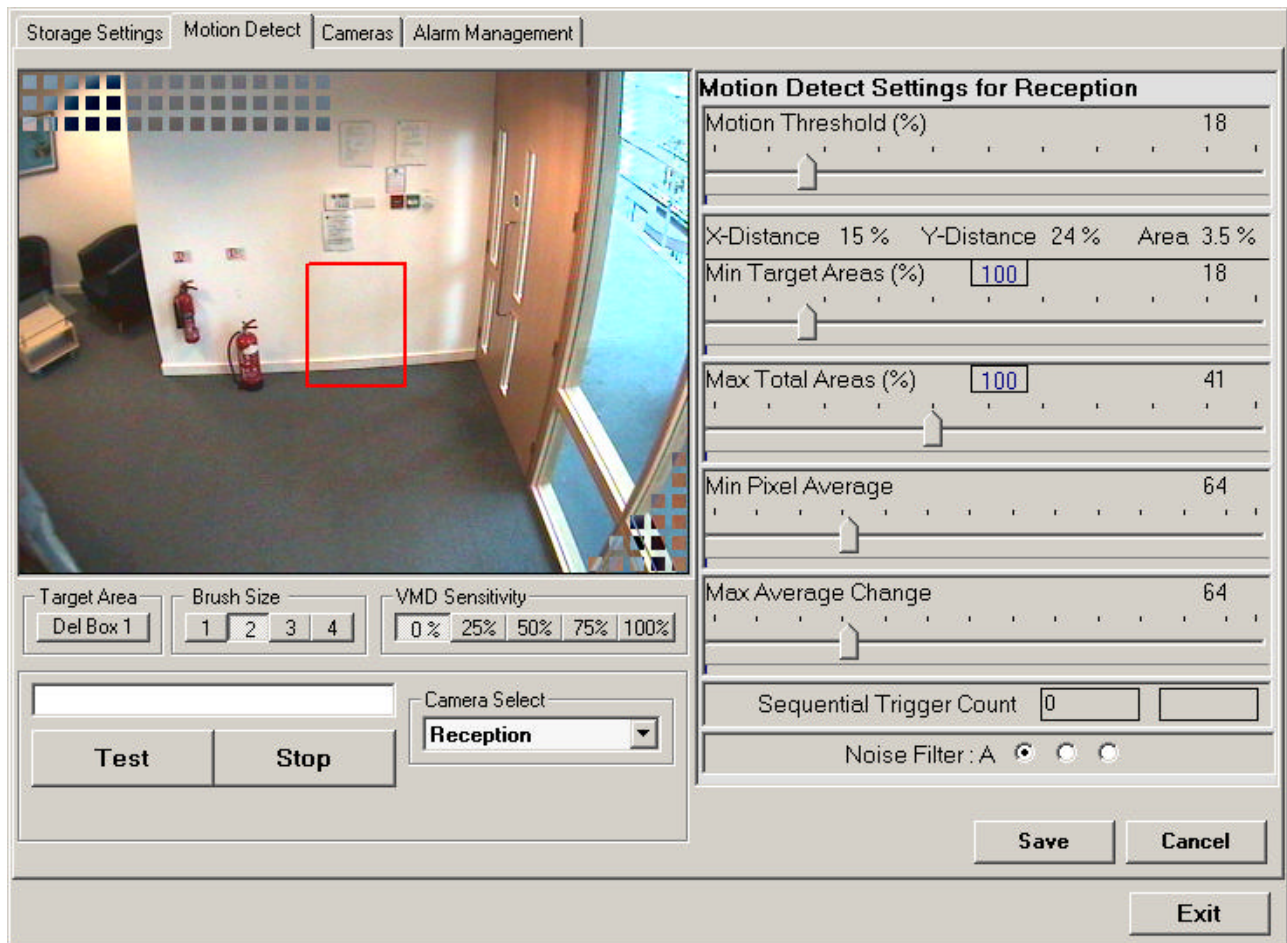
This screen is used to modify and test the Video Motion Detection Settings for camera inputs that are required to generate a VMD alarm. VMD is based on analysing small areas within the image for changes from frame to frame. Any active small areas are then analysed once more to see if they form a reasonably sized cluster. The size and position of any cluster found is then checked to see if it matches a valid target. If it seems to be a valid target a further level of checks is performed to prevent false triggers. The process to set the VMD for any camera consists of a sequence of steps:

1. **Create image mask**
2. **Set target area**
3. **Set trigger thresholds**
4. **Test settings**
5. **Save settings**

NOTE : IN ADDITION TO SETTING UP THE VMD PARAMETERS IN THIS SCREEN IT IS ALSO NECESSARY TO TELL THE SYSTEM WHEN TO USE VMD AS THE RECORD TRIGGER (See section 12) AND WHAT TO DO AFTER A VMD TRIGGER HAS ACTIVATED (See section 12.2).

The steps 1 through 4 may be performed a number of times until correct performance of the camera is achieved before finally storing the configuration.

Note: Make sure you select the camera you require to test in 'Camera Select', as the default is blank.

**Figure 16 Video Motion Detection screen**

#### 8.1.2.1 Create Mask

To reduce false triggers due to motion in the image but not actually in an area of interest, masking can be applied to the image. Masking only effects the area of the image tested for motion and not what eventually may get stored. The image can have various levels of sensitivity set for different areas within the scene. Simply choose the VMD sensitivity required, brush size you would like to use and then paint in the relevant image areas by using the mouse when holding down the left hand button. Blocks superimposed on to the image show the set levels of sensitivity. If no block can be seen then that area of the image is at 100% sensitivity. If the block is solid that area is set at 0% sensitivity which effectively means the area is turned off. The values of 75, 50 and 25% make the area less and less sensitive to motion.

#### 8.1.2.2 Set Target Size

When analysing the image for motion, knowledge of target size can be used to avoid false triggers. You can draw required target shape and size on the image by using the mouse while holding down the right button. If you need to redraw the target box then just select the delete target box button. By drawing multiple target boxes, perspective information can be given to the system. These target boxes do not define the area of the image that is the target, that task is performed by the above masking process. Thus the location of your target box will not matter, only its shape and size. If you do however define multiple target boxes then the height in the image of each box is important.

#### 8.1.2.3 Set Trigger Thresholds

The system has two user definable thresholds to set the level at which motion has been detected. These are Motion Threshold and Minimum Target Areas. It uses a further number of user settings to help identify false trigger activity. Moving the relevant slider bar easily sets the threshold. The



setting is given as a figure above. During testing the figures obtained are also displayed above the sliders.

#### **8.1.2.4 Motion Threshold**

This is effectively the level of change required between areas of the image from one frame to the next. The lower the set level the more sensitive the system is to detecting motion within a scene. When the threshold is set to low, the system will be susceptible to noise problems. It is this threshold that decides whether an area of the image might have active motion or not. Additionally, this setting may be used to remove nuisance triggers due to camera shake.

#### **8.1.2.5 Minimum Target Areas**

This level is the minimum percentage of areas that will be allowed to match your defined target size. The smaller the value the more sensitive the system will be to motion. In order to try and prevent a large target such as a bus trigger the system when you are actually looking for cars, a separation boundary is automatically created. This separation boundary is based on the target size and the value of this Threshold.

#### **8.1.2.6 Max Total Areas**

This threshold is used to prevent false triggers. It will make the system ignore the results for this image if the total number of areas that contain motion is too great. A typical example of this type of false trigger is a camera shaking in the wind. Generally you should not need to adjust this figure.

#### **8.1.2.7 Min Pixel Average**

This threshold is used to prevent false triggers. It will make the system ignore the results for this image if the average pixel level from the camera is too low. This is to prevent certain types of cameras that are very noisy under low light conditions from creating continuous triggers. Generally you should not need to adjust this figure.

#### **8.1.2.8 Max Average Change**

This threshold is used to prevent false triggers. It will make the system ignore the results for this image if the average illumination level of the image has changed significantly since the previous frame. A typical example of this type of false trigger is some one shining a torch at the camera. Generally you should not need to adjust this figure.

#### **8.1.2.9 Sequential Trigger Count**

You can set the system to require a sequence of valid detected motion across multiple frames before it will create a trigger. This is some times referred to as "Double Knock". The figure is the number of extra triggers required after the first valid one. By default this is set to 0 thus requiring no extra frames.

#### **8.1.2.10 Noise Filters**

Please leave the noise filter set to "A".

#### **8.1.2.11 Test Settings**

Simply press the Test button and the system will start capturing a sequence of images which it uses to give you graphical feedback on your settings. Each image is marked with sets of lines denoting areas of interest the system has found. Green denotes active areas within the target area it thinks it has found with a Red line marking the centre. Blue denotes active areas within the boundary around that target. Purple lines denote other active areas in the image. A Yellow line denotes the area with the greatest change from the previous image. As well as the above, the slider areas change colour depending on image content. If the image meets the required slider value it will be displayed as green, otherwise it will become blue. If all the threshold values are met then the image name area becomes Red. The testing sequence must be stopped to change the settings, save or exit the screen.

**Figure 17** Video Motion Detection test screen

The screenshot shows the 'Motion Detect' tab in a software interface. On the left is a video feed of a person walking in a hallway, with green and blue motion detection lines overlaid. Below the video feed are controls for 'Target Area', 'Brush Size' (1-4), and 'VMD Sensitivity' (0-100%). To the right of the video feed is a 'Motion Detect Settings for Reception' panel with the following settings:

- Motion Threshold (%): 36 (range 18-100)
- X-Distance: 15 % Y-Distance: 24 % Area: 3.5 %
- Min Target Areas (%): 3 (range 1-100)
- Max Total Areas (%): 80 (range 4-100)
- Min Pixel Average: (0) (255) 134 64
- Max Average Change: 2 (range 1-64)
- Sequential Trigger Count: 0 (range 0-10)
- Noise Filter: A (radio buttons)

At the bottom left, there is a red status bar displaying 'VMD0000', a 'Test' button, a 'Stop' button, and a 'Reading Information...' button. At the bottom right are 'Save', 'Cancel', and 'Exit' buttons.

### 8.1.2.12 Save Settings

Once you are happy with the settings you should save them before moving on to the next camera.

### 8.1.3 Cameras

This screen is used to define the activity for every camera within the system. For each camera you can define its activity for every hour of the week. Each camera can be in one of three states, ON, OFF and VMD. If the camera is on it captures images continuously at the interval defined in milliseconds. If the camera is set to VMD it will check for motion within the images continuously, storing a preset number of images if activity is detected. If the camera is turned off no images will be stored for that camera. The compression level is also defined per hour. This has a value in the range 0 to 15 giving compression levels 5:1 to 50:1 approximately, with 5:1 being the highest quality image. The storage destination is also defined for each and can be one of two hard disk circular buffers D0 and D1 or to TAPE if present. To modify any entry or group of entries just select them using the cursor.

**Note:** If you set any cameras to VMD you must also set up the same camera in Alarm Management and define VMD parameters as detailed in section 12.2

When you choose VMD for a camera in this screen the 'interval in milliseconds' field defines the rate at which the camera looks for movement changes and not the frame rate at which the camera will actually be recording.

**Figure 18 Camera management screen**

Storage Settings | Motion Detect | **Cameras** | Alarm Management

Selected System: Master, Slave 1

Camera Selection: Camera\_m1, Camera\_m2, Camera\_m3, Camera\_m4

Buttons: Remove, Re-Name, Add New, Picture

Pre-Event: Number of Pre-Event Images: 0

ON, OFF, VMD, Save, Cancel, Exit

Time\Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
00:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
01:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
02:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
03:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
04:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
05:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
06:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
07:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
08:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
09:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
10:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
11:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
12:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
13:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
14:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
15:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
16:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
17:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
18:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
19:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
20:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
21:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
22:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0
23:00	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0	333 2 D0

The options available in the camera selection screen are as follows:

#### 8.1.3.1 Pre Event – (Not installed as standard)

Pre Event recording is an optional extra that gives you the option of saving images recorded prior to an event. The pre event box gives you the option to choose how many images you require. Setting pre event to '0' disables it. The Pre-Event function is factory set at the time of system manufacture and must be specified at the time of ordering.

#### 8.1.3.2 Remove

Removes the highlighted camera. You must leave at least one camera on each system E.G. Master/Slave1/Slave2 etc...

**Do not remove all cameras from any system.**

#### 8.1.3.3 Re-Name

Renames the highlighted camera.

*When naming cameras the following symbols must not be used:*

. \ / | ( ) < > . A space will create an automatic underscore \_.

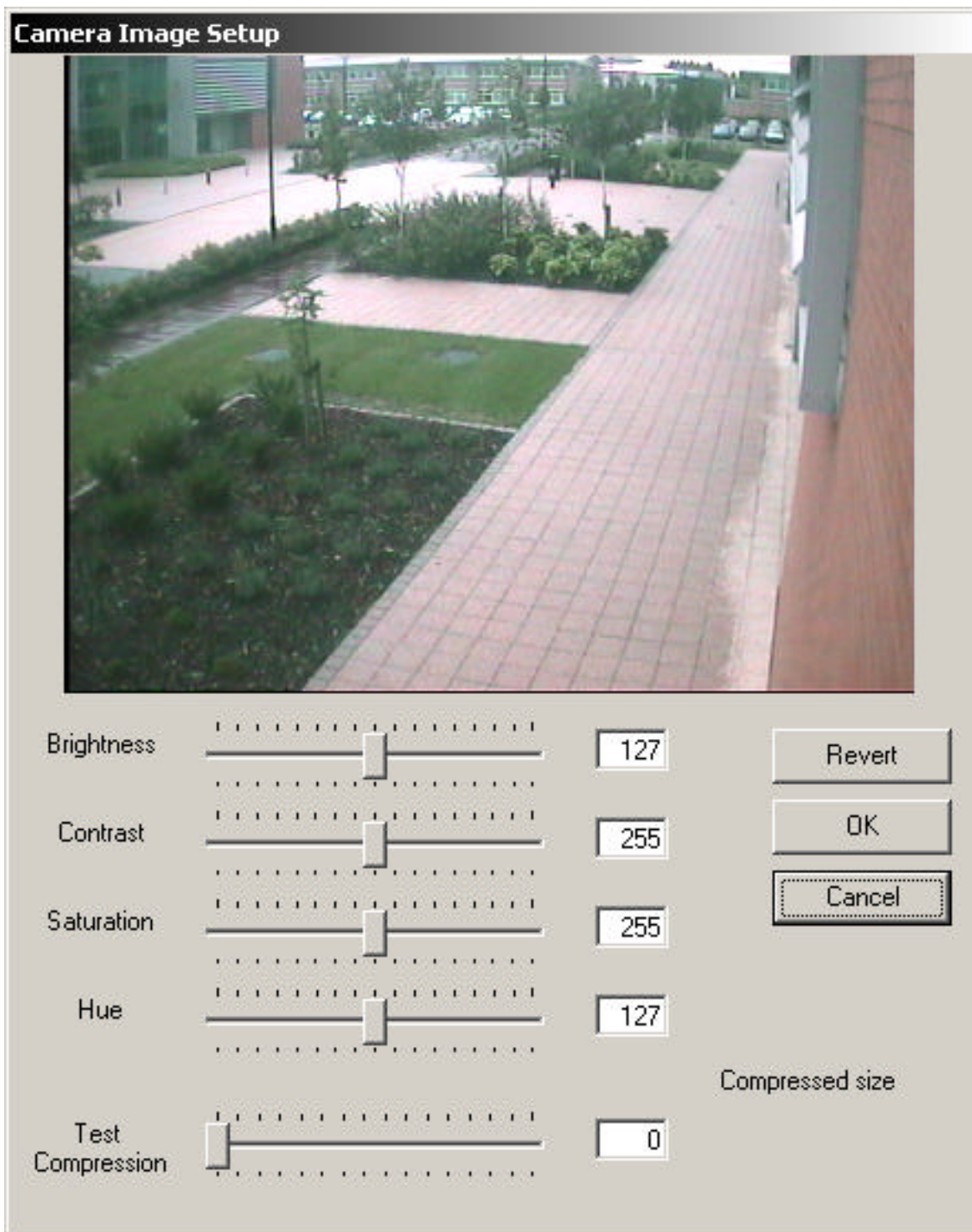
#### 8.1.3.4 Add New

Add new cameras. The same name rules apply as for re-naming. Do not exceed the number of inputs on each system.



### 8.1.3.5 Picture

Figure 19 Brightness and Contrast



In Camera Image Setup you can set the Brightness, Contrast, Saturation and Hue of the captured images.

Also there is a slider for testing the compression levels used in the Camera Management Screen and in the alarm capture sequences. The live feed displayed can be adjusted for image quality and recorded image size.

## 8.1.4 Alarm Management

Figure 20 Alarm management screen

The screenshot shows the 'Alarm Management' screen with the following sections:

- Alarm Selection:** A tree view on the left showing 'Master' expanded, with sub-items: 'Async. Alarms', 'Digital Inputs', 'Camera VMD Input' (selected), 'Reception', 'car\_park' (highlighted), 'camera\_3', 'camera\_4', 'ANPR1', 'ANPR2', 'ANPR3', 'ANPR4', 'Serial inputs', and 'Slave 1'.
- Master - Camera VMD Input - 1:** The main configuration area.
  - Capture Sequence:**
    - Capture Images From: 'car\_park' (dropdown), Initial Delay(ms): '0' (text box).
    - No. Images: '20' (text box), Interval (ms): '1000' (text box), Compression: '8' (dropdown).
    - Capture Additional Images From: 'Reception' (dropdown), Initial Delay(ms): '60000' (text box).
    - No. Images: '60' (text box), Interval (ms): '1000' (text box), Compression: '8' (dropdown).
  - PTZ Commands:** A table with 3 columns: Camera, PTZ Command, Time(ms).
 

Camera	PTZ Command	Time(ms)
2	None	0
0	None	0
0	None	0
0	None	0
  - Alarm Behaviour:**
    - Alarm Priority: '1 - Low' (dropdown), Async Activity: 'OFF' (dropdown).
  - Dial-Up Behaviour:**
    - Dial-Up Sequence: A table with 2 columns: Site Name, Wait (ms) if line is Busy.
 

Site Name	Wait (ms) if line is Busy
None	None
None	None
None	None
None	None
    - Alarm Description: '<< Schedule' (button), 'Internal camera alarm' (text box).
    - Email:** 'None' (dropdown).
    - Output:**
      - Output To: 'Off' (dropdown), Output Count: '0' (text box), Interval (ms): '0' (text box).
  - Buttons:** 'Save', 'Cancel', 'Exit'.

### 8.1.4.1 Alarm Management and Priorities

This screen sets up the actions the system should take based on any trigger. Triggers can be things like standard digital inputs or video motion detected on a specified camera.

First select the system at the top left of the management screen then a list of alarms available for selection will appear beneath. (see section 15).

Alarm Priorities must be assigned to each camera set to Video Motion Detect. Priorities are as follows:

1 – Low (factory default) to 255 – High

If two triggers are received at the same time the camera with the highest priority number will override the lower priority camera. If you are not using Digital out then make sure that the **Output To** box is set to off.

**If the Alarm Priority is set to 0 the camera will not capture due to this alarm**

Eg. If a digital trigger or a camera VMD input has an alarm priority of zero then it will be completely ignored.

#### **8.1.4.2 Capture Sequence**

If a trigger occurs then you can request a sequence of images to be captured from any camera. You may specify an initial delay before the image acquisition starts as well as a required compression level. The system will then capture the required number of images with the specified interval between frames. A further sequence of images may also be requested from a second or secondary camera. An alarm priority must be assigned to each VMD camera.

#### **8.1.4.3 PTZ Commands**

Up to four PTZ commands can be sent to selected PTZ cameras in a timed sequence. Each command is sent to the selected camera and then the system waits for the specified time before issuing the next instruction. For example, this may be used to zoom in on a specific area for closer images. In the PTZ commands area select the required camera by clicking on the Camera button then select the required camera from the drop down list. Do the same for the PTZ command and time required.

#### **8.1.4.4 Dial-Up Behaviour**

The system can be configured to automatically connect to a remote site and start-sending images based on alarm triggers. You can select up to four remote sites for the system to try and connect to. The unit will attempt to connect to the first entry on the list for the specified period. If this is unsuccessful it tries each entry in turn until it makes a connection. The Dial-out behaviour can be scheduled on a per hour basis. This allows for dial-out activity to only occur out of normal office hours for example. Click on the Schedule button to edit the dial out schedule. Sites to dial out to are added in the Site configuration screen (see Adding sites to a remote system on p.40) and can then be seen in the Dial up Behaviour section of the Alarm management page by clicking on Site name to bring up the Site list box.

#### **8.1.4.5 Output**

A selected output relay can be closed on alarm activation. You can also configure the output to generate a square wave by specifying the number of times you require the output to change and the time between changes.

## 8.2 Player Settings

### 8.2.1 General 1

Figure 21 General 1

The screenshot shows the 'General 1' settings window. It features a tabbed interface with the following tabs: Monitoring, PTZ, General 2, User Time, Image Data, Dial-Up/EMail, and General 1. The 'General 1' tab is active. Inside this tab, there are several configuration options:

- ☐ Enable Playback of Raid Images
- Name of Raid Events :
- ☒ Provide 'All Cameras' as a Live-Viewing Option
- Milliseconds Displayed per Camera
- Check For New Images Every Day at  :00 hrs (0-23)
- ☒ Display alarm summary on login
- ☐ Use an Image Manipulation Program
- Image Manipulation Program
- 
- 
- 

While the user interface is in live mode it can automatically skip through views from all the cameras. This feature is enabled here and creates an extra camera in the camera selection menu called **"All Cameras"**.

If required you can enable an image manipulation program to be used with the system. This screen enables this feature and defines the program to run when the user double clicks on an image.

## 8.2.2 General 2

Figure 22 General 2

The screenshot shows a software configuration window titled 'General 2'. It features a tabbed interface with tabs for 'User Time', 'Image Data', 'Dial-Up/EMail', 'General 1', 'Monitoring', 'PTZ', and 'General 2'. The 'General 2' tab is active. Within this tab, the 'Source of External Text' is set to 'None'. Below this, the 'Streamed Images' section has a checked checkbox for 'Enable Image Streaming Option' and a text field for 'Default Directory' containing 'd:\', with a 'Browse' button to its right. The 'SnapShot Images' section also has a checked checkbox for 'Enable Image SnapShot Archive', a text field for 'Number of Images to Archive' containing '10', and a text field for 'Default Directory' containing 'C:\SnapShot\' with a 'Browse' button to its right. At the bottom of the window are 'Save' and 'Exit' buttons.

This screen is used to set up a number of user interface features.

**Source of external text** allows the connection of data capturing devices.

The **Streamed images** feature of the unit is enabled here. This feature gives the user the ability to store sequences of compressed images to the defined location. This location is often a form of removable media such as a CDR drive. Click browse and choose the directory you require.

Note: This will become the default setting and users logged in as USER/ADMIN will not be able to select a different location.

**Snap Shot Archived images** can be enabled using this screen. When the user presses the save button on the main screen the archive directory is given as an alternative to the normal backup location which is generally a CD-R. This allows important images to be saved in bitmap format to a specified location on the local hard drive. The maximum number of images, which the archive is able to store, is definable to avoid over usage. Once the archive is full it will overwrite the oldest image after a warning message is given. The Archived Image directory is set up exactly the same



as the Streamed Images. Each Archive Image will be approx 350k so if set to 100 images it would take up 35MB on the target drive.

When you are happy with the settings click save. You do not need to restart Witness for the changes to take effect.

### 8.2.3 Dial-Up/Email

**Figure 23** Dial-Up/Email

The screenshot shows the 'Dial-Up/Email' configuration window. The 'Details About This Site' section has a text area containing 'Witness'. The 'Always Monitor For Incoming Calls' and 'Enable External Dial-Up' checkboxes are checked. The 'Communication Time Out (secs)' is set to 60. The 'Send a Daily Email to :' dropdown menu is set to 'None'. The 'Save' and 'Exit' buttons are at the bottom right.

In Details About This Site you can enter the site name and any notes you require. This information will be appended to any saved images.

This screen is used to enable remote dial up for access into the system. This applies to all forms of remote connectivity including PSTN, ISDN and LAN/WAN. If the system is to be a Monitoring Station for remote sites to transmit to on alarms, monitoring of incoming calls must be enabled. In order to combat the numerous problems that may occur during communications a defined Time Out period is set. This will allow the software to reset itself if valid communication is not received from the remote site within the specified period. The time period must be defined in seconds and is dependant on the speed of the communications network used. Slower network connectivity must be given a longer Time Out period.

## 8.2.4 User Time

Figure 24 User time

The screenshot shows a software interface for configuring user time settings. The window has a tabbed interface with the following tabs: Monitoring, PTZ, General 2, Image Data, Dial-Up/E-Mail, and General 1. The 'User Time' tab is currently selected. The main content area contains a checkbox labeled 'Time-Out Users' which is checked. Below this checkbox, there are two input fields: 'Time Before Automatic Log-Out' with a value of 60 and the unit 'Mins.', and 'Warning Time before Automatic Log-Out' with a value of 10 and the unit 'Secs.'. At the bottom of the window, there are two buttons: 'Save' and 'Exit'.

Use this screen to enable the user to have a Time Out facility. User Time Outs gives a set viewing time that can be lengthened if required through certain keyboard commands.

When these 'User Time Outs' are enabled the system will require a special Time Out key sequence within a defined time period or the system will automatically Log-Off.

The system will give a warning of a definable number of seconds before Logging Off. This feature is used to prevent the inadvertent leaving of sensitive images on the screen if the user is called away.

## 8.2.5 PTZ

Figure 25 Pan, Tilt and Zoom (PTZ) Enable

User Time Image Data Dial-Up/E-Mail General 1

Monitoring **PTZ** General 2

☒ Enable PTZ Assign PTZ Camera Types

☐ On Log-Out put all PTZ Cameras into Patrol mode

☐ BBV1500 Keyboard attached

BBV1500 Keyboard Comm. Port

Comm2

9600,n,8,1

Save Exit

Use this screen to turn the PTZ camera control on or off by placing or removing a tick in the Enable PTZ box.

You can also enable the PTZ cameras to be placed automatically into 'Patrol' mode on system Log-Off. This leaves the cameras in constant motion giving the impression of permanent surveillance.

A BBV1500 Keyboard can be attached to a COM port on the Witness Viewing Unit. Select the COM port and serial protocol settings. The values shown are the default.

## 8.2.6 Image Data

Figure 26 Image data

The screenshot shows a software window titled 'Image Data'. It features a tabbed interface with tabs labeled 'Monitoring', 'PTZ', 'General 2', 'User Time', 'Image Data' (which is the active tab), 'Dial-Up/E-Mail', and 'General 1'. Within the 'Image Data' tab, there is a central area containing three text input fields. The first field is labeled 'Information Tag 1 :' and contains the text 'CODE'. The second field is labeled 'Information Tag 2 :' and contains the text 'EVENT'. The third field is labeled 'Information Tag 3 :' and contains the text 'ALARM'. At the bottom of the window, there are two buttons: 'Save' and 'Exit'.

This screen is for re-labelling the three fields in Event Viewer when doing a search.

Each image can have three information fields associated with it. The name to be used for each of these fields within the user interface is defined within this screen.

The default settings are Information Tag 1, Information Tag 2 and Information Tag 3. For ANPR applications Tag 2 is the ANPR Category, and Tag 3 is the Number Plate.

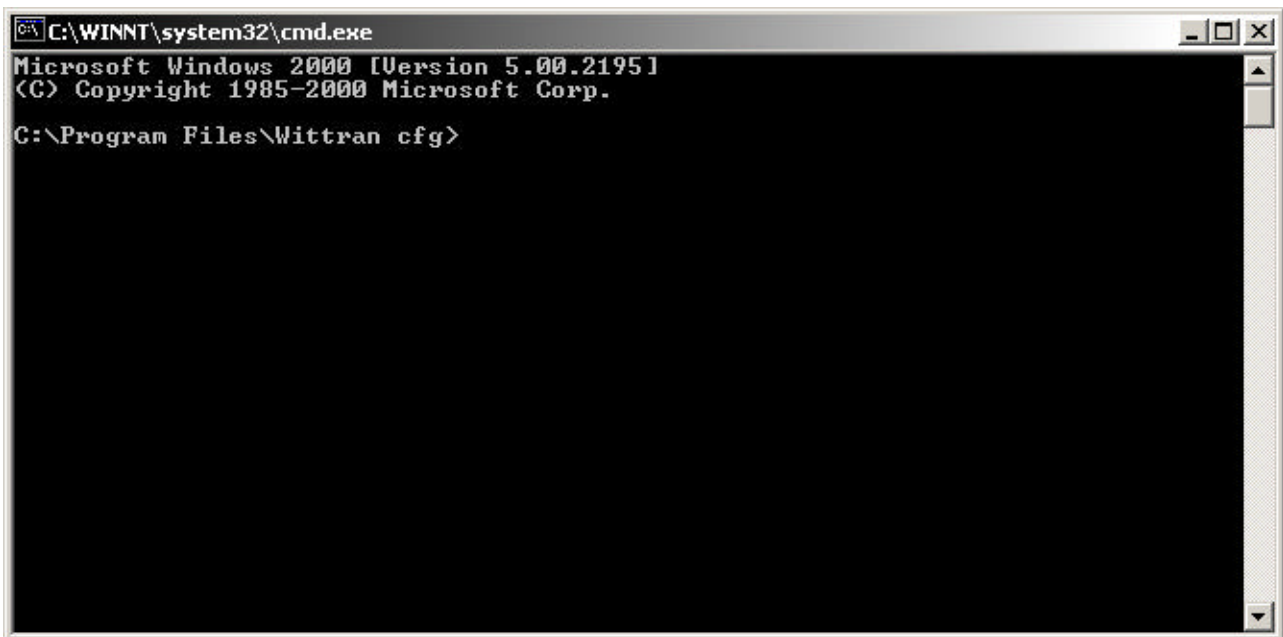
See section 7.3 for more information on Event Viewer.

## 8.3 Shutdown

The screenshot shows a dialog box with a title bar that reads 'Click on the Option you Require'. Inside the dialog, there are two large buttons stacked vertically. The top button is labeled 'Shutdown the Witness Unit' and the bottom button is labeled 'Shutdown and Restart the Witness Unit'. At the bottom right of the dialog, there is a 'Cancel' button.

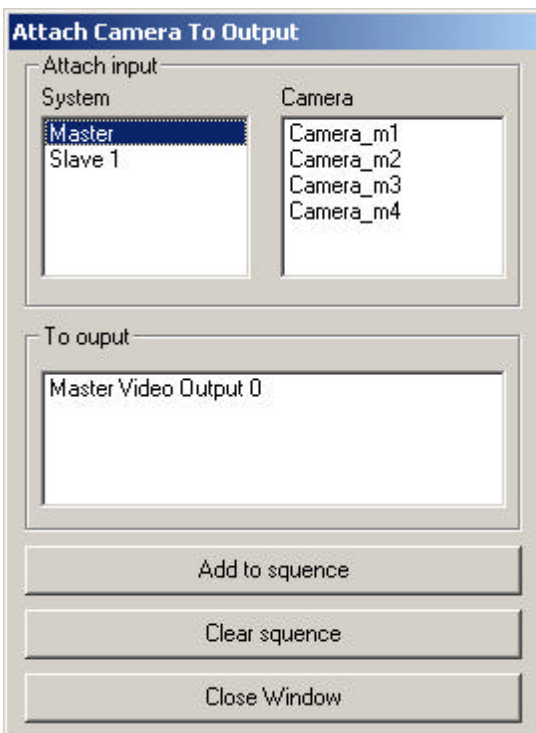
Select either Shutdown to power off the system, or "Shutdown and Reboot" to reboot the system.

## 8.4 DOS Prompt



Gives access to the DOS prompt.

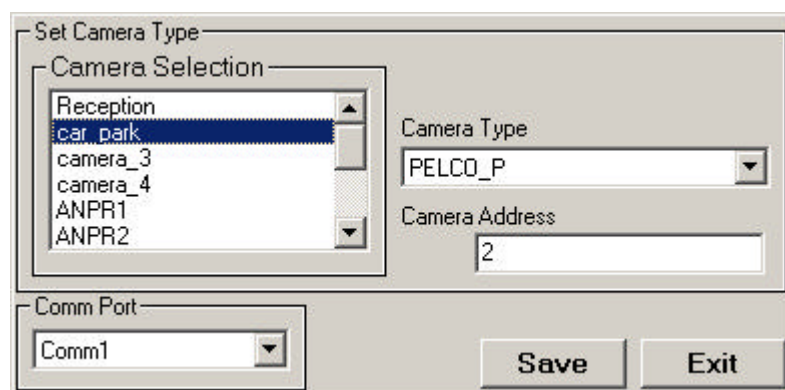
## 8.5 Auxiliary Output



An auxiliary output is provided for attaching to a spot monitor. Witness can cycle through a selection of the cameras attached and route the video feed out to the spot monitor.

Select a system, a camera and then an output before pressing "Add to sequence".

## 8.6 PTZ set-up

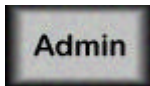


The 'Set Camera Type' dialog box is used for configuring PTZ cameras. It features a 'Camera Selection' list box with the following items: Reception, car\_park (highlighted), camera\_3, camera\_4, ANPR1, and ANPR2. To the right of the list box are two fields: 'Camera Type' with a dropdown menu showing 'PELCO\_P', and 'Camera Address' with a text box containing the number '2'. At the bottom left is a 'Comm Port' dropdown menu showing 'Comm1'. At the bottom right are 'Save' and 'Exit' buttons.

If you have any Pan-Tilt-Zoom (PTZ) cameras attached then they can be configured here.



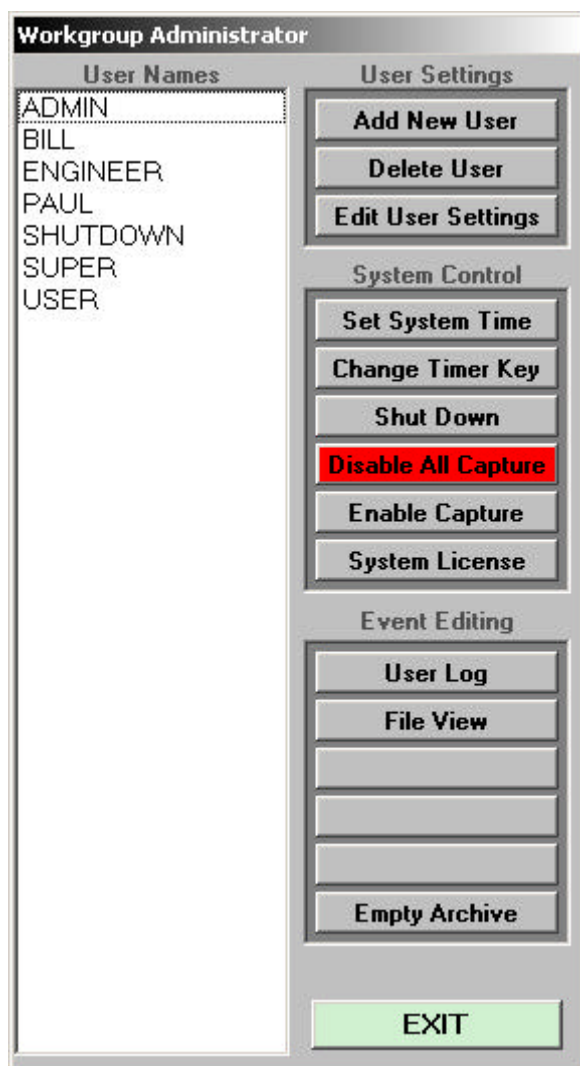
## 9 Administration



The **Admin** button situated at the bottom of the screen controls the system administration functions, the general house-keeping functions of the system. These are set into groups headed **User Names**, **User Settings**, **System Control** and **Event Editing**. The Administration function is Password protected. Although you can access most Admin functionality when logged on as engineer you will not be able to add and remove users.

### 9.1 Administration Facilities

Figure 27 Admin screen



The Administration function equips the Administrator with a number of system functions. This includes managing the users of the system, the ability to update the time, presentation aspects of the system, viewing of the User Log and the system performance data, and control of the Archive storage function. To use any of these options select and click.

All current **Users** of the system are listed on the left side of the Workgroup menu. These include the default settings of **Admin**, **Super**, **Engineer** and **Shutdown**. Please refer to section 14.2 to add new users to the system.

## 9.2 Adding a New User to the System

A dialog box titled "User Properties" with a light gray background. It contains three text input fields: "User Name", "New User Password", and "Confirm Password". At the bottom right, there are two buttons: "OK" and "Cancel".

To set up a New User on the system you will require a User Name and User Password. **Do NOT** use spaces or upper case characters. First select the 'Add New User' button, then click in the User Name field and enter the name of the user. Then select the User Password field and enter the chosen Password. Confirm this by entering the same password into the Confirm Password field. Finally select and click on OK to create the new user.

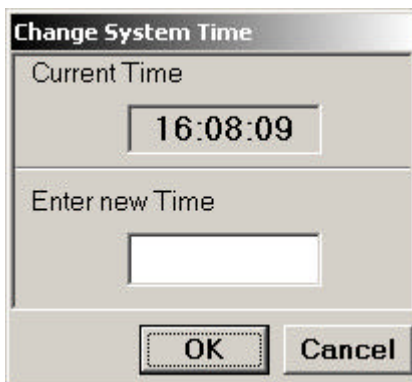
## 9.3 Deleting a User

From the Workgroup Administrator menu select and click on the name of the user you wish to delete. Select and click on the Delete User button. You will then be asked to confirm the deletion of the user by clicking on the yes button.

## 9.4 Editing User Settings

Select and click on the user name requiring changes. Then select and click on Edit User Settings. This will display the User properties screen (See 14.2) Make amendments as necessary. Click on OK when complete.

## 9.5 Setting the System Time

A dialog box titled "Change System Time" with a light gray background. It contains two text input fields: "Current Time" (displaying "16:08:09") and "Enter new Time" (empty). At the bottom, there are two buttons: "OK" and "Cancel".

To amend the time set in the system, click on the set system time button. Next enter the new time in the New Time field. Complete the process by selecting OK.

## 9.6 Changing the Timer Key



To keep the video images as secure as possible each user session has a maximum time period to run once logged on. To extend the user session users will key in '**Shift**' and a letter from the keyboard at the same time. To set the letter you want to use, select the 'Change Timer Key' button and key in the letter of your choice. Complete the process by selecting OK. The default setting is '**T**'

## 9.7 Shutdown

See Shutdown in the Engineer's menu (detailed in section 8.3).

## 9.8 Disable All Capture

This feature allows you instantly to disable capture from all cameras with one click. You will be asked to confirm this action three times. To re-enable capture use the 'Enable All Capture' button.

## 9.9 Enable Capture

Re-enables capture from all cameras with a single click.

## 9.10 System License

This is a function that enables Neurodynamics to determine whether a valid License is enabled on the Witness system.

## 9.11 View User Log

Select and click on User Log. This will display the logging on and off of all users of the system.

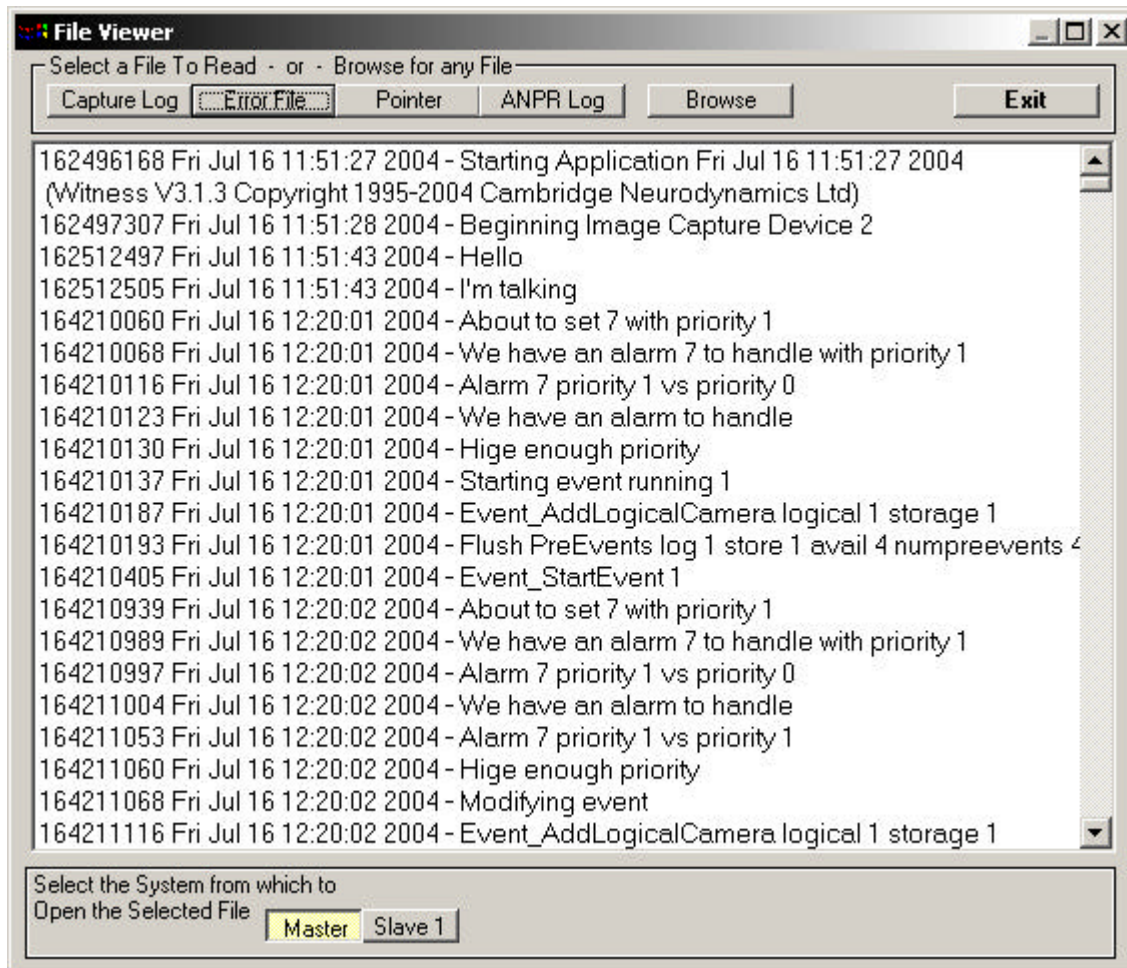
User Log		
Date	Time	User Events
09/07/2004	06:05:15	<Night_Indexing> Logged On ..
	06:35:35	Camera <Reception> Selected (Screen 0) ..
	06:35:35	Camera <car_park> Selected (Screen 1) ..
	09:29:57	<ENGINEER> Logged On ..
	09:29:58	Camera <All Cameras> Selected (Screen 0) ..
	09:29:58	Camera <None> Selected (Screen 1) ..
	09:31:16	<ENGINEER> Logged Off
09/07/2004	09:31:38	<ENGINEER> Logged On ..
	09:31:48	Camera <Reception> Selected (Screen 0) ..
	09:31:48	Camera <car_park> Selected (Screen 1) ..
	09:37:18	Camera <Reception> Selected (Screen 1) ..
	09:37:18	Camera <ANPR2> Selected (Screen 0) ..
	09:37:18	Camera <ANPR2> Selected (Screen 0) ..
	09:37:19	Playing forwards from Wed Jul 07 08:24:19 2004 ..
	09:37:20	Playing stopped at Wed Jul 07 08:24:19 2004 ..
	09:37:42	Camera <car_park> Selected (Screen 1) ..
	09:37:44	Playing forwards from Wed Jul 07 07:00:00 2004 ..
	09:38:26	Playing stopped at Wed Jul 07 07:58:51 2004 ..
	09:38:27	Playing backwards from Wed Jul 07 07:58:51 2004 ..
	09:38:31	Playing stopped at Wed Jul 07 07:58:43 2004 ..

The log will also show all of the actions taken by each user, the images reviewed and the camera they were viewed from.

The log can be cleared at any time by selecting and clicking on Clear Log, but only by the Administrator. The User Log holds a maximum of 28 days of information.

## 9.12 File View

File View gives access to view critical files within the system. Neurodynamics staff will always direct you when in this area.



You may also be asked to relay data held in these files to Neurodynamics in order to enhance the running of the system.

Please be aware of the system selector at the bottom of the screen when looking for information.

## 10 Master and Slave Systems

Within the storage settings, camera and alarm management screens the system to be modified has to be selected. Generally systems of up to 8 cameras will only consist of a “master” system. As systems become larger a number of “slave” systems will also be displayed here. For example, a 16 camera system will consist of a “master” and “slave” whereas a 32 camera system will consist of a the “master”, “slave1”, “slave2” and “slave3”.

If, for example, changes are required on camera number 17 in a 32 camera system then this camera will be the 1<sup>st</sup> camera in the selection list for the “slave2” system, camera 25 will be the first camera in the list for “slave3” and so on.

The same principles apply for the storage and alarm management screens.

**Figure 28 Master and Slave Systems**

**Alarm Selection:**

- Master
  - Async. Alarms
  - Digital Inputs
  - Camera VMD Input
  - Serial inputs
- Slave 1
  - Async. Alarms
  - Digital Inputs
    - Digital 0**
    - Digital 1
    - Digital 2
    - Digital 3
    - Digital 4
    - Digital 5
  - Camera VMD Input
  - Serial inputs

**Slave 1 - Digital Inputs - 0**

**Capture Sequence**

Capture Images From :  Initial Delay(ms)

No. Images  Interval (ms)  Compression

Capture Additional Images From :  Initial Delay(ms)

No. Images  Interval (ms)  Compression

**PTZ Commands**

Camera	PTZ Command	Time(ms)
0	None	0
0	None	0
0	None	0
0	None	0

**Alarm Behaviour**

Alarm Priority  Async Activity

**Dial-Up Behaviour**

Dial-Up Sequence

Site Name	Wait (ms) if line is Busy
None	None
None	None
None	None
None	None

Alarm Description:  << Schedule

**Email**

**Output**

Output To :  Output Count  Interval (ms)

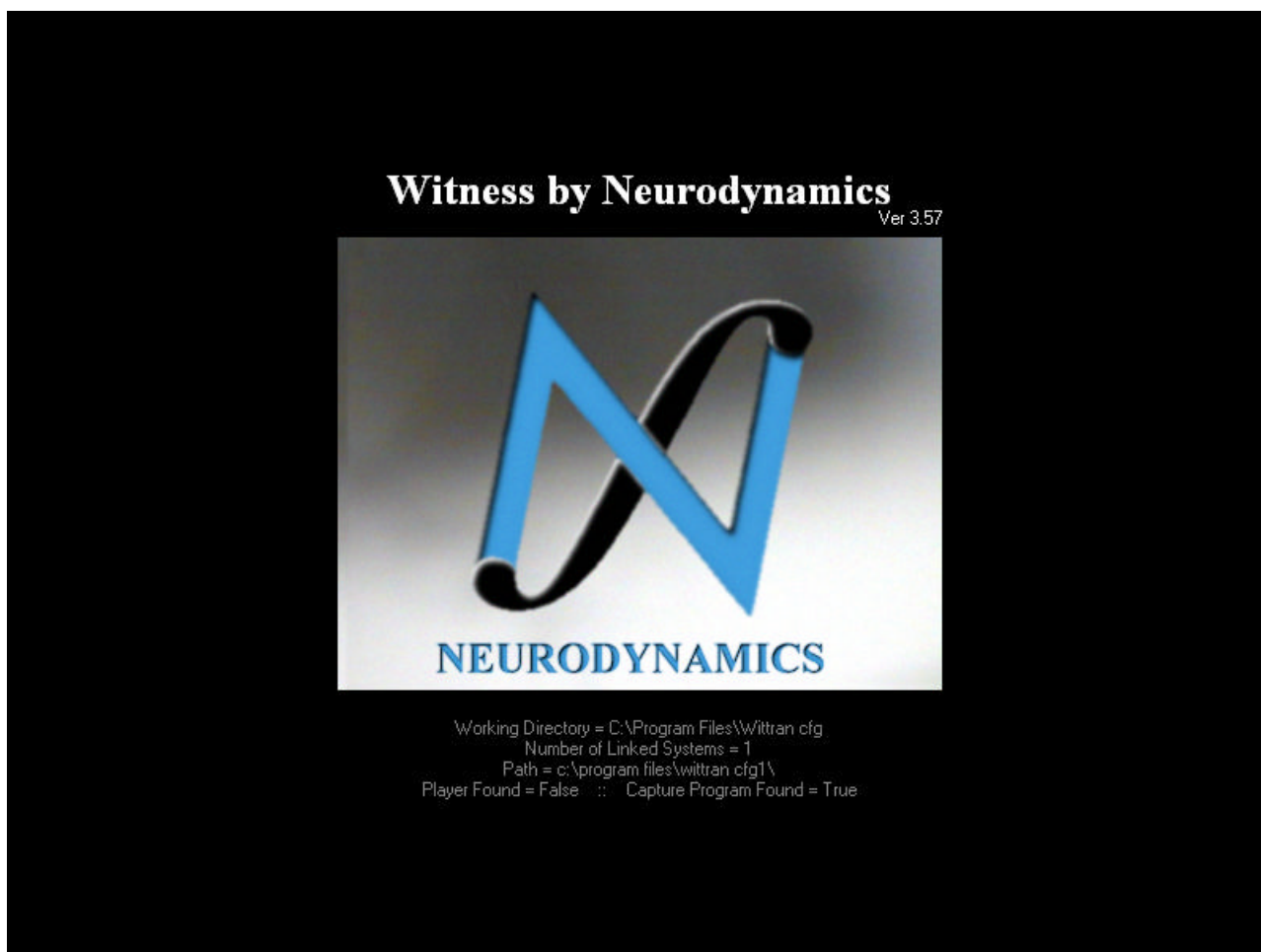
**System Alarm Dial-Out**

**Buttons:** Save, Cancel, Exit



## 10.1 Slave Main Screen

Figure 29 Checker

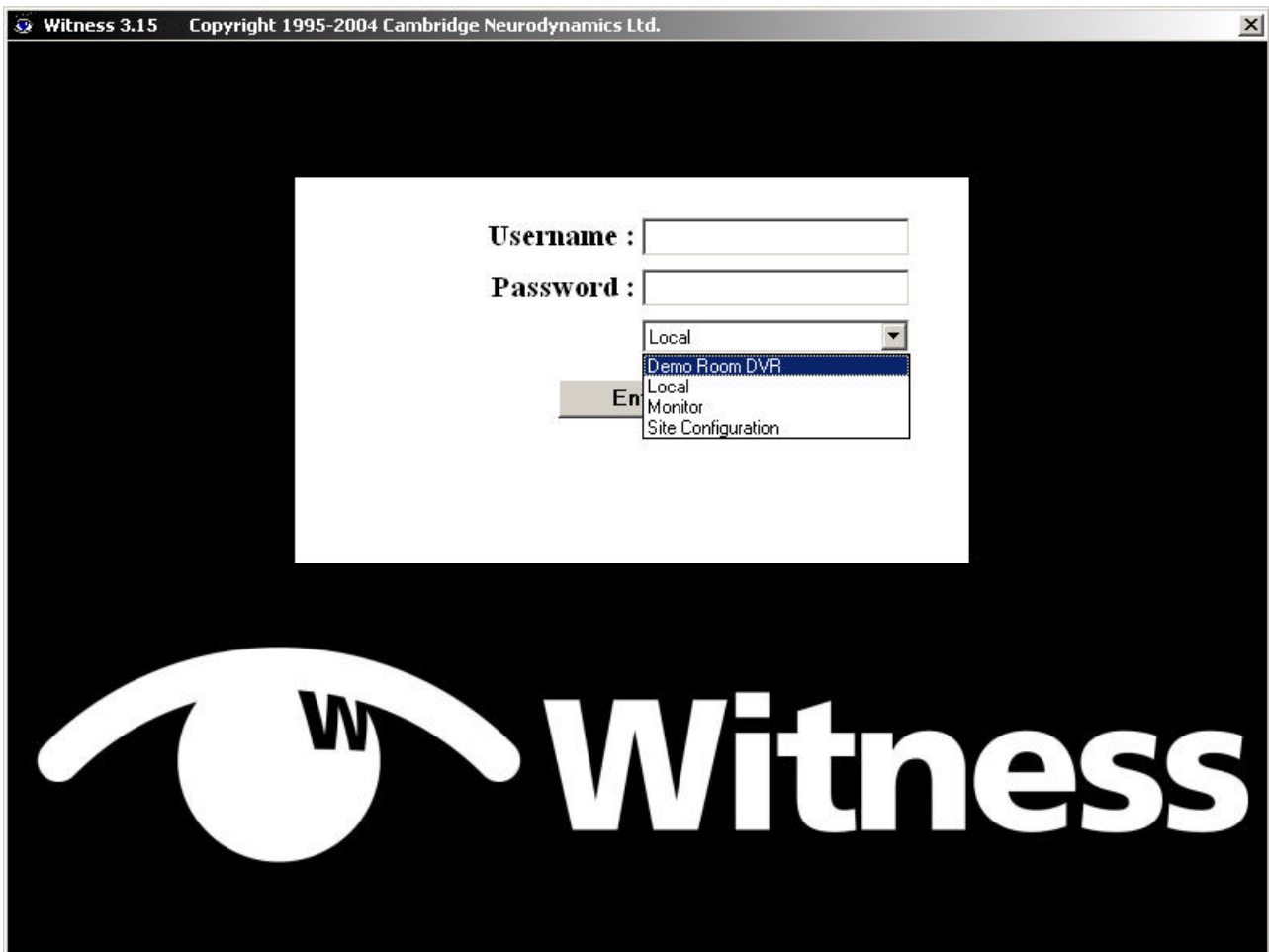


When changing the view to a slave system you will see this front end screen. This screen is only available if you have more than one Witness system unit.

## 11 Remote Connectivity

### 11.1 Connecting to a Remote Site

Figure 30 Connecting to a remote site



To connect to a remote site click on the down arrow next to the word “**Local**”. A list of all the sites with the remote connection facility will be listed. Type your user name and password in the relevant fields. Complete the connection by clicking on the Enter button.

The connection process will take from 2 to 30 seconds to connect with the requested site (the speed of connection depends on the type of transmission used). All connectivity is via TCP/IP.

Once the connection is made you will be presented with the main screen of the Witness system. To the user a Witness remote system will “look” exactly the same as a local system. All features available to the local user are available to the remote user. Your access is only limited by your password level (See section 2.2). For instance, Administrators will obtain the Admin functions whereas a User will be able to view Live and Recorded images only.

### 11.2 Adding Sites to a Remote System

Remote systems are generally installed in a central monitoring station and used to view images from a number of sites via a network, ISDN or phone connection. Normally this type of system will not be used to store images continuously but can store or print remote images depending on the set-up required.

The type of remote connection affects the speed levels of images downloaded from a remote site, e.g. a remote connection via LAN offers much better performance than a PSTN connection.

All “Engineer” and “Admin” functions are available remotely so changes can be made to a number of systems from a central location without the need for numerous site visits.

**Figure 31 Site Configuration Screen**

Log on as the “**Engineer**” level user and select “**Site configuration**” from the drop down list. The remote configuration screen will now be displayed.

Sites can be selected within the “Site name” box and deleted or changed using the relevant buttons to the right.

New sites are added by clicking on the Add new site button and following the instructions given.

If the site to be added is accessed over a phone line or ISDN then the phone number and TCP/IP number of the remote system will be required. If the system is to be accessed over a LAN then only the TCP/IP Address is required.

When finished, click on exit to return to the logon screen. The new site will now be selectable in the drop down box.

The default IP address of each Witness Compact System is 192.168.56.1

### 11.3 Network Settings and Dial Up Networking

Systems that use ISDN or PSTN remote access do so via Microsoft Dial up Networking. Each local machine is configured as a Remote Access Server to allow the monitoring machine to dial-in and access files as though the systems are connected across a local area network.

Remote access Witness systems will have Dial up networking installed and configured prior to despatch so it is unusual for engineers to have to change any of the system settings for dial up networking.

Any engineers checking or changing parameters within Windows NT should have experience in using Windows and manipulating the various Control Panel features.

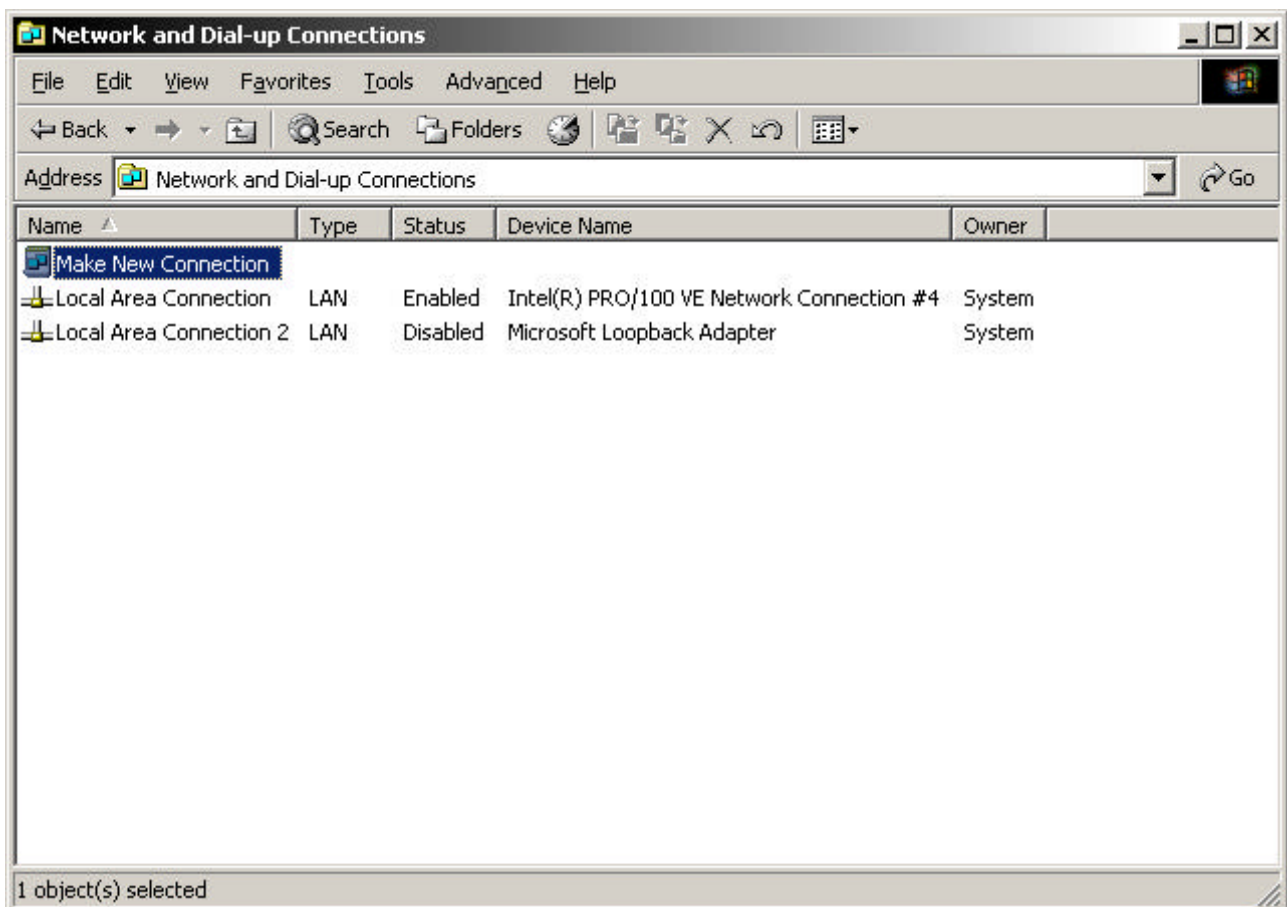
Once configured, there should be no problems with dial up networking. In the unlikely event that any problems do arise here are some checks that can be performed.

### 11.3.1 Setting up Remote Access Server

By default, all Witness systems have Remote Access enabled. This section explains the default settings used.

Open Network and Dial-up Connections from the Control Panel or right clicking on The Network Neighbourhood and then left clicking on Properties.

**Figure 32 Network Neighbourhood screen**



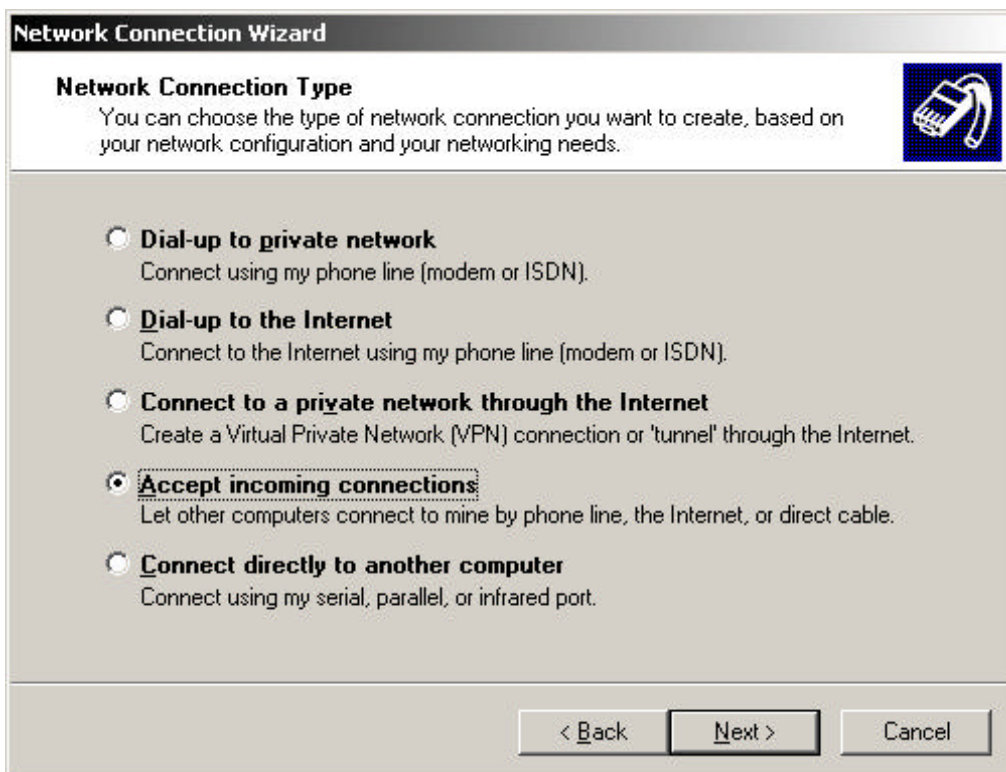
Double click on "Make New Connection".

Figure 33 Network Connection Wizard

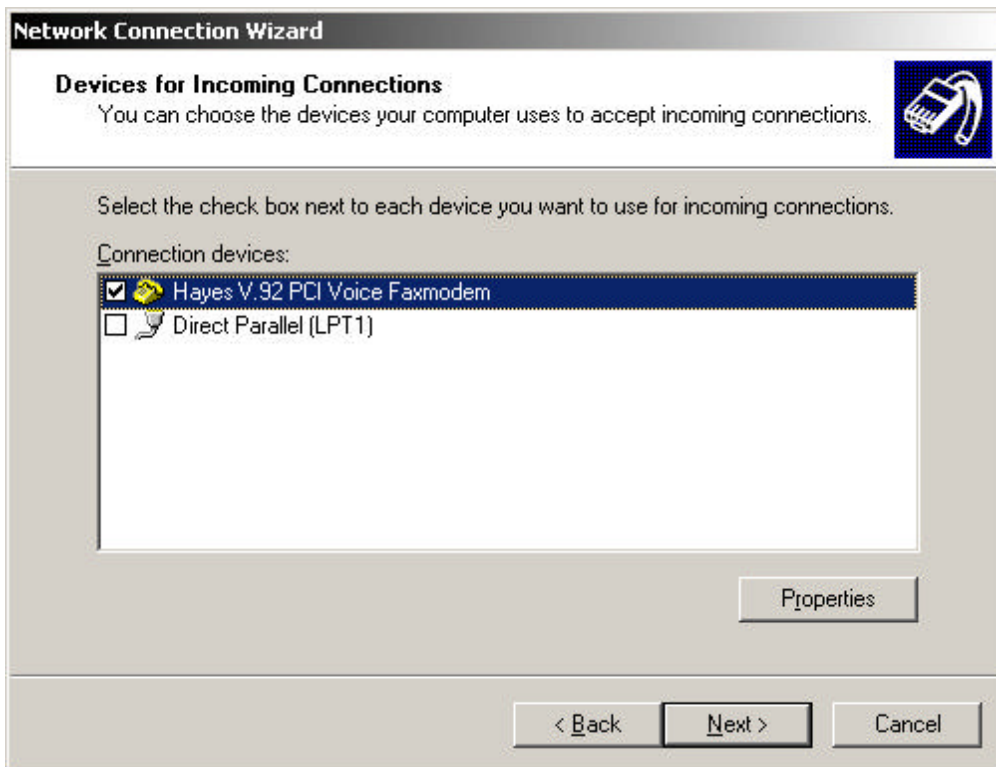


Press "Next".

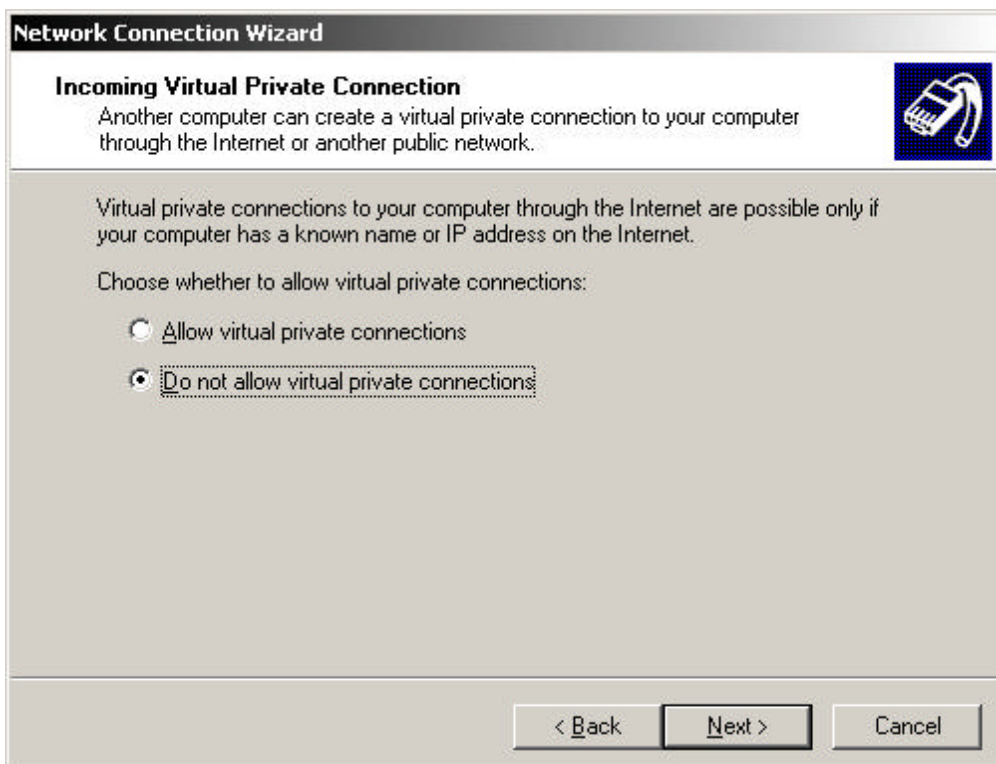
Figure 34 Wizard – Network Connection Type



Select "Accept incoming connections" and press "Next".

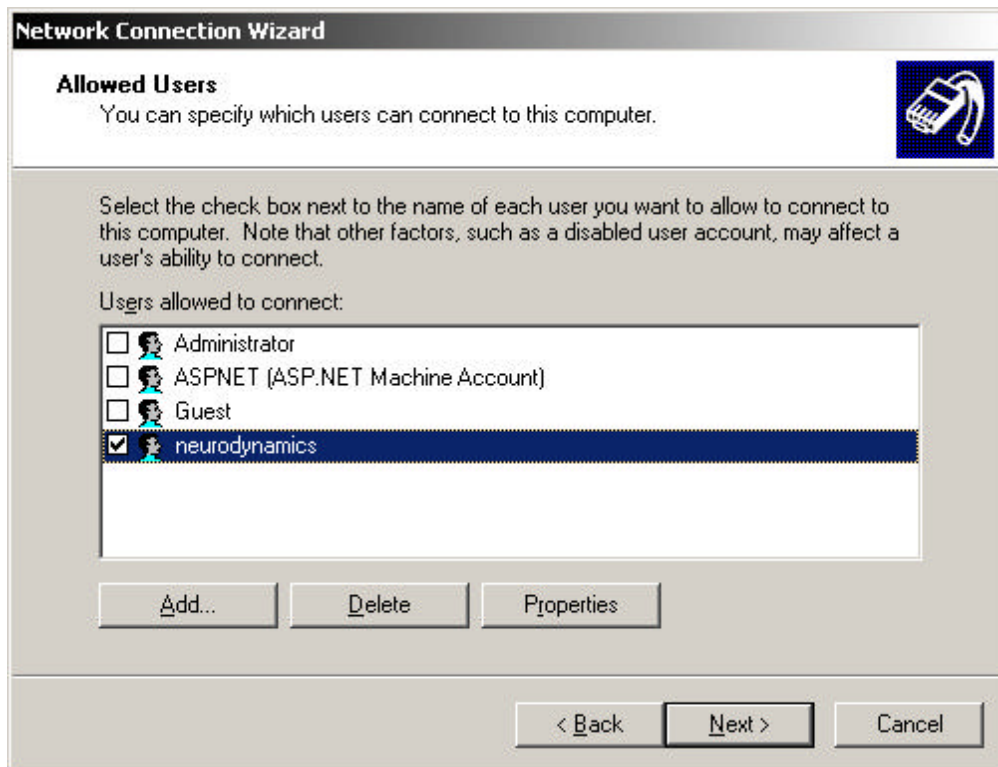
**Figure 35 Wizard - Devices for Incoming Connections**

Select your modem and press "Next"

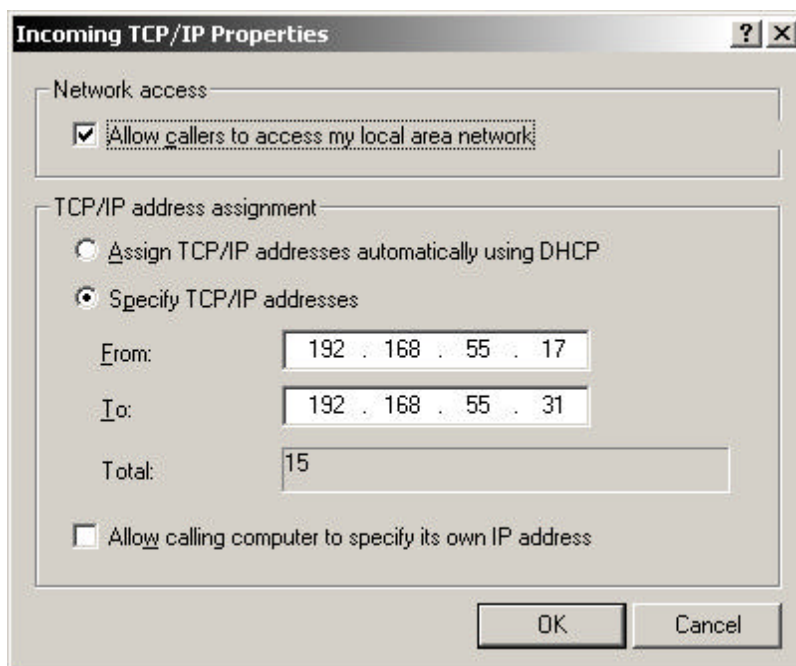
**Figure 36 Wizard - Incoming Virtual Private Connection**

Select "Do not allow virtual private connections" and press "Next".



**Figure 37 Wizard – Allowed Users**

Select only the user called “neurodynamics”, and press “Next”.

**Figure 38 Wizard – Incoming TCP/IP Properties**

Select “Allow callers to access my local area network” and “Specify TCP/IP addresses”.

Set the TCP/IP range from “192.168.55.17” to “192.168.55.31”.

Ensure “Allow calling computers to specify its own IP address” is not selected.

Press “OK”.

**Figure 39**      **Completing the Network Connection Wizard**

Call the connection "Incoming Connections" and press "Finish".

### **11.3.2 Remote or Monitoring Systems**

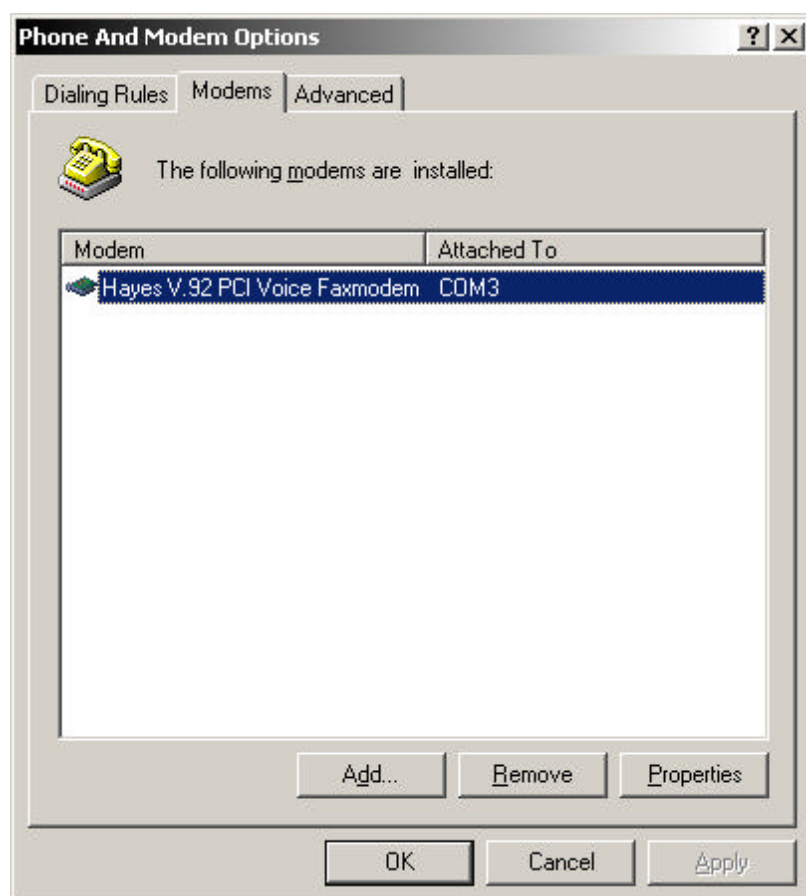
As with local systems check that RAS is running as a service and is set to start automatically.

Make sure that the TCP/IP address is DIFFERENT to any machines that are to be accessed remotely.

In the Remote Access Set-up screen all that needs to be checked is that the relevant modem/TA is selected in the main screen and that the dial out feature is selected in the configure section.

As with local systems check that max modem/TA speed is set to 115200.

This is configured in Control Panel/Modems.

**Figure 40      Modem Properties**

Select your modem and click properties. Set the Maximum speed to 115200.

Check also that you are using the maximum modem/TA connectivity speed at the remote site by following the same process on the remote machine.

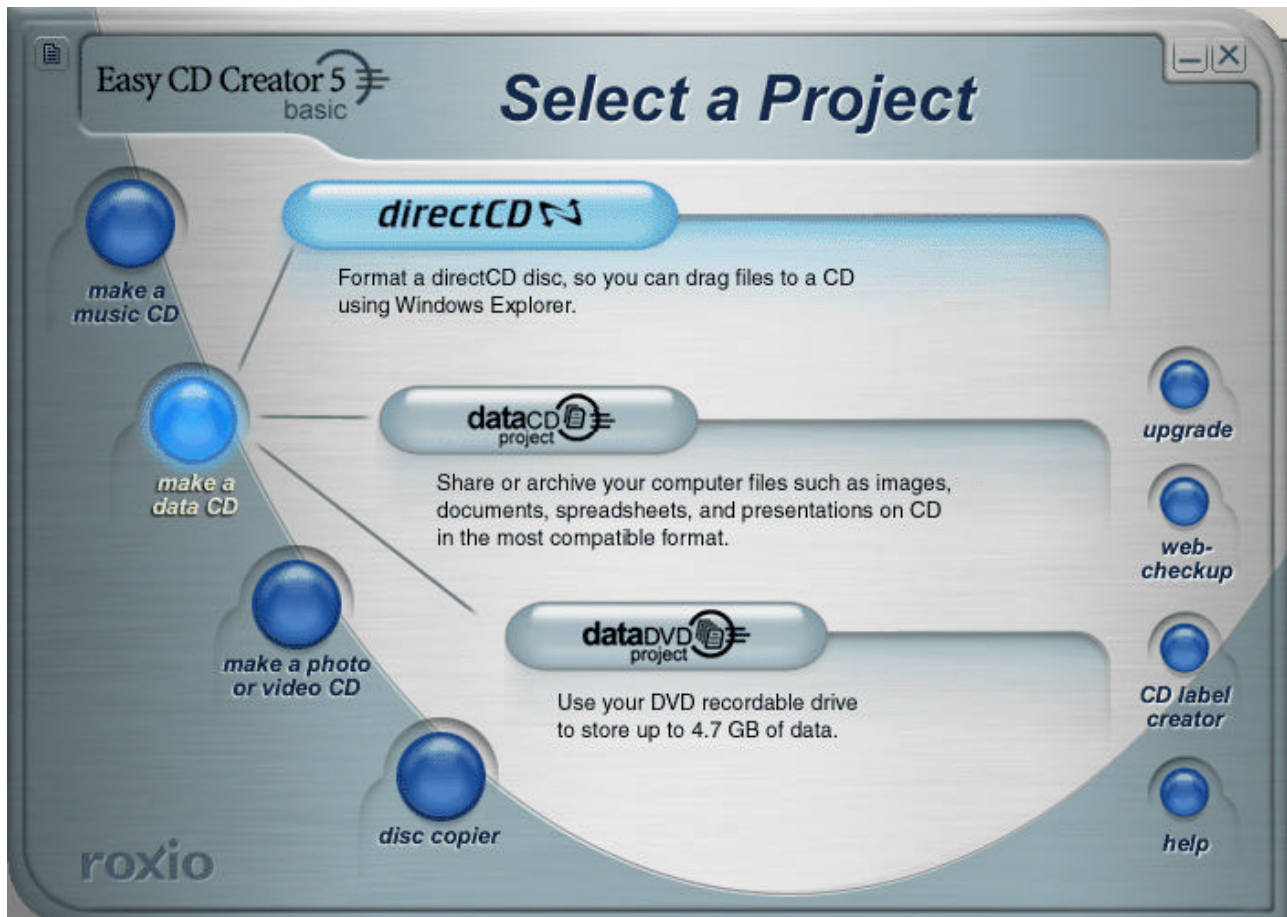
## 12 CD-Rs and CD-RWs

### 12.1 Formatting a CD-R/RW before streaming images to CD

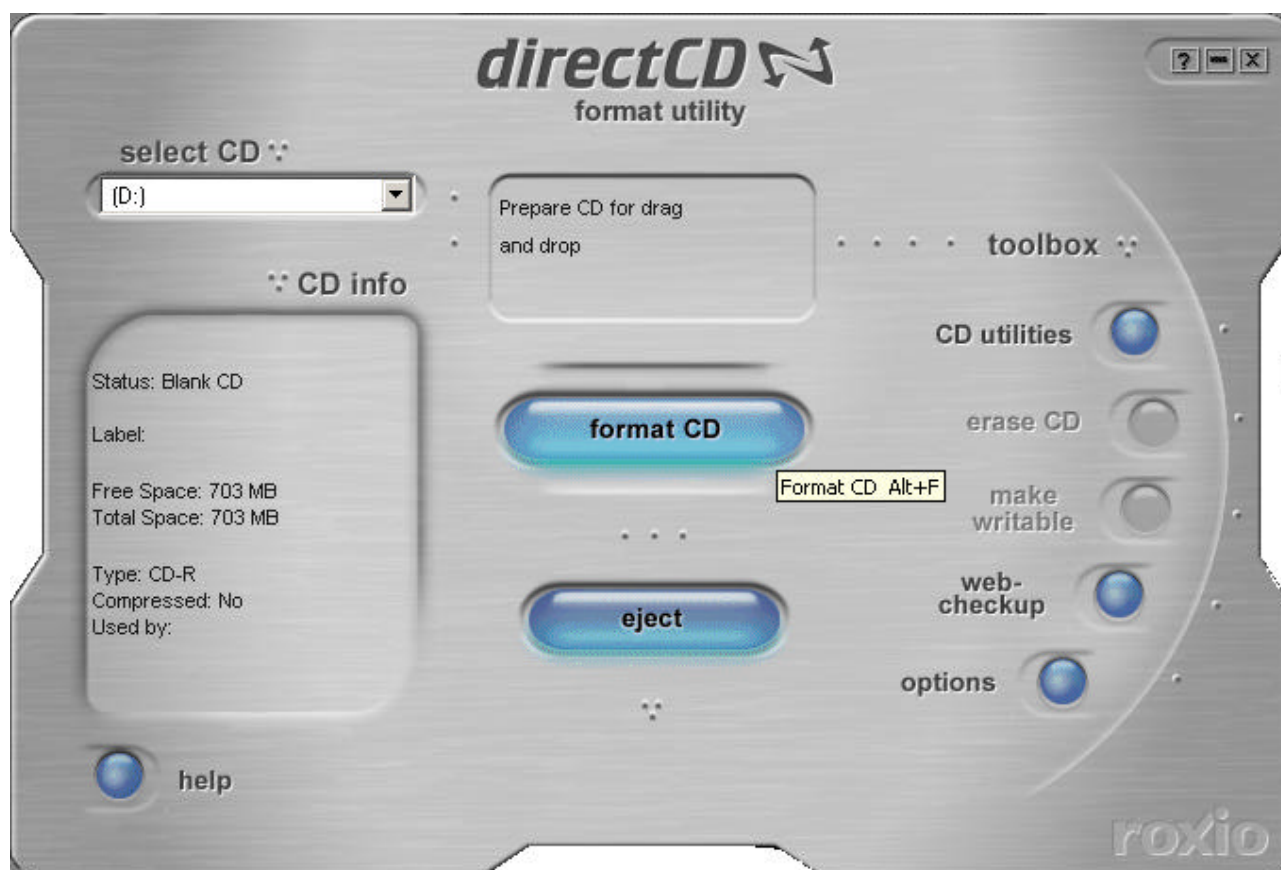
Insert a blank CD-R/RW into the CD-Writer drive (if installed).



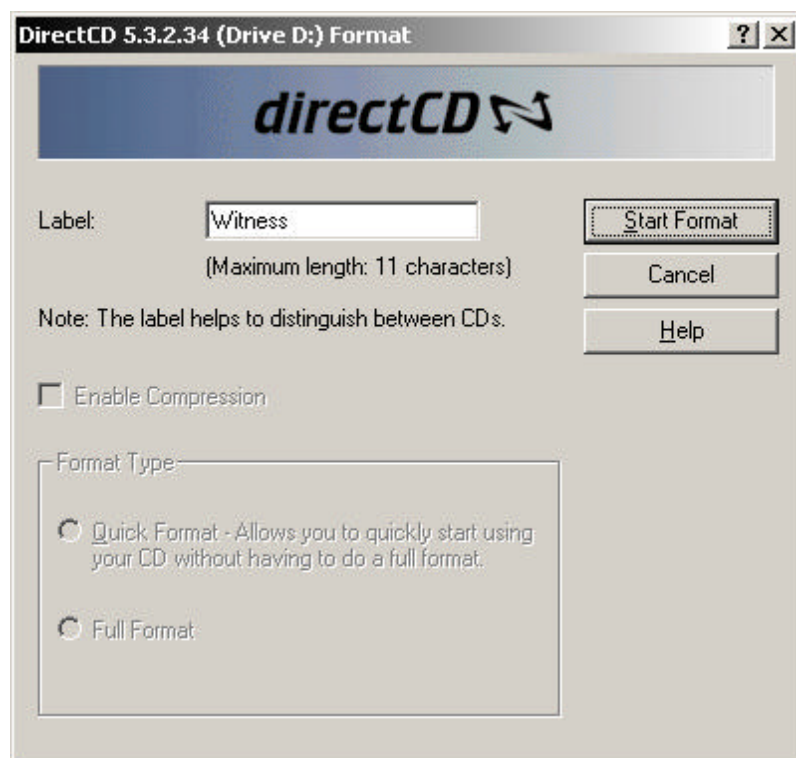
If the CD formatting utility does not automatically start you can press the CD button to launch it.



Select “**Make a data CD**” and “**directCD**”.

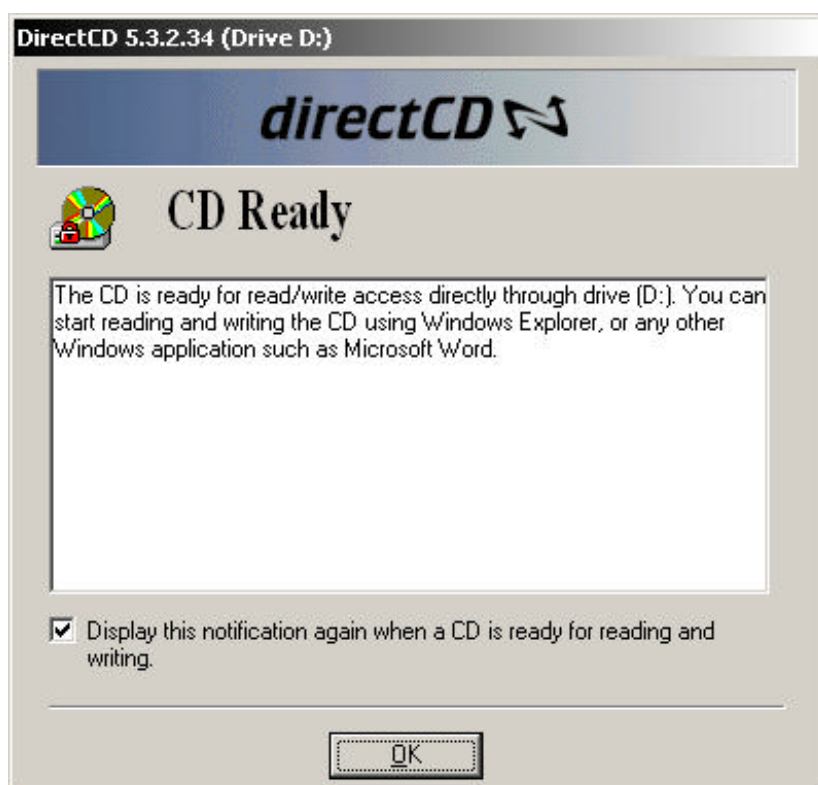


Press **“Format CD”**



Type in a label for the disc and press **“Start Format”**.





After the CD is formatted, wait for the CD Ready box, and press "OK".



Hide the format utility press clicking on the X in the top right corner.

The CD is now ready to use.

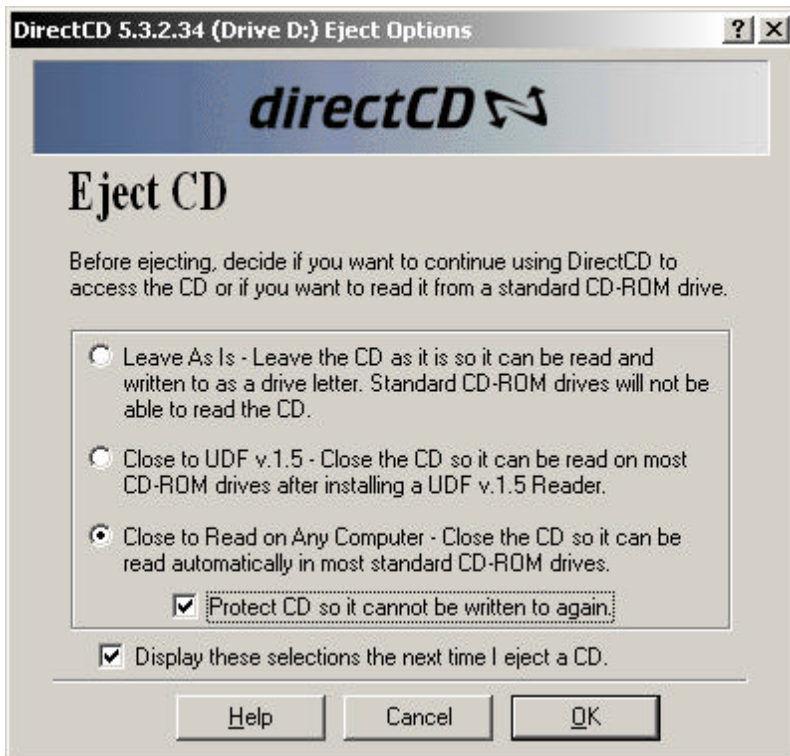
**Note: the CD-ROM on your system might have been assigned to another drive letter**



## 12.2 Ejecting CDs

When you press the CD eject button or select Eject from the directCD format utility it will display the following:

Figure 41 Eject CD



For best evidence purposes select **“Close To Read On Any Computer”** and **“Protect CD so it cannot be written to again”**. Then press **“OK”**.

## 13 I/O Connector Details

When supplied Witness units have 6 alarm inputs and 4 relay outputs per bank of 8 camera inputs. These inputs/outputs are found on 25 way female D-Type connectors on the rear panels of the system.

### 13.1 Digital Inputs

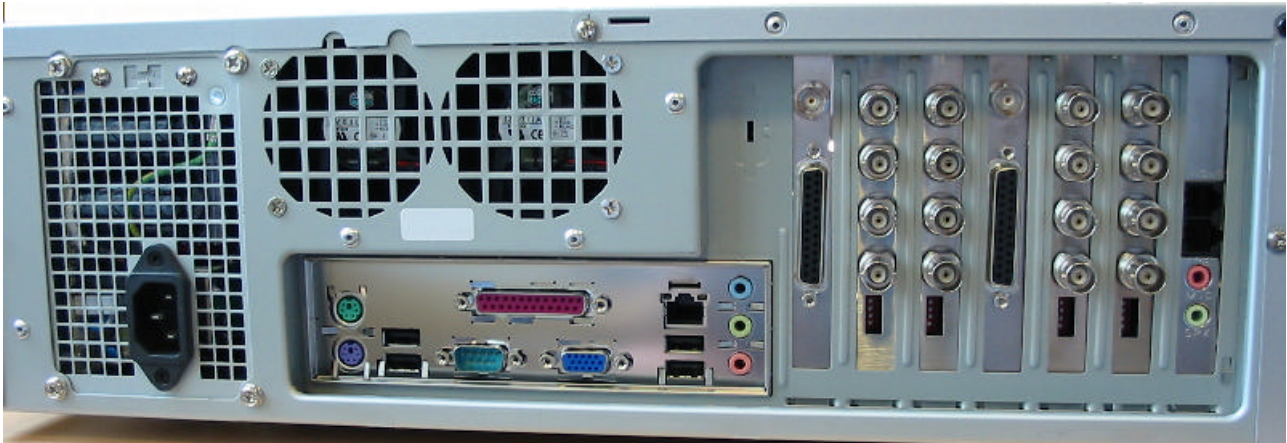
Input	Positive Pin	Negative Pin
0	8	21
1	7	20
2	6	19
3	5	18
4	4	17
5	3	16

### 13.2 Digital Outputs

Output	Normally Open Pin	Common Pin
0	10	22
1	11	23
2	12	24
3	13	25

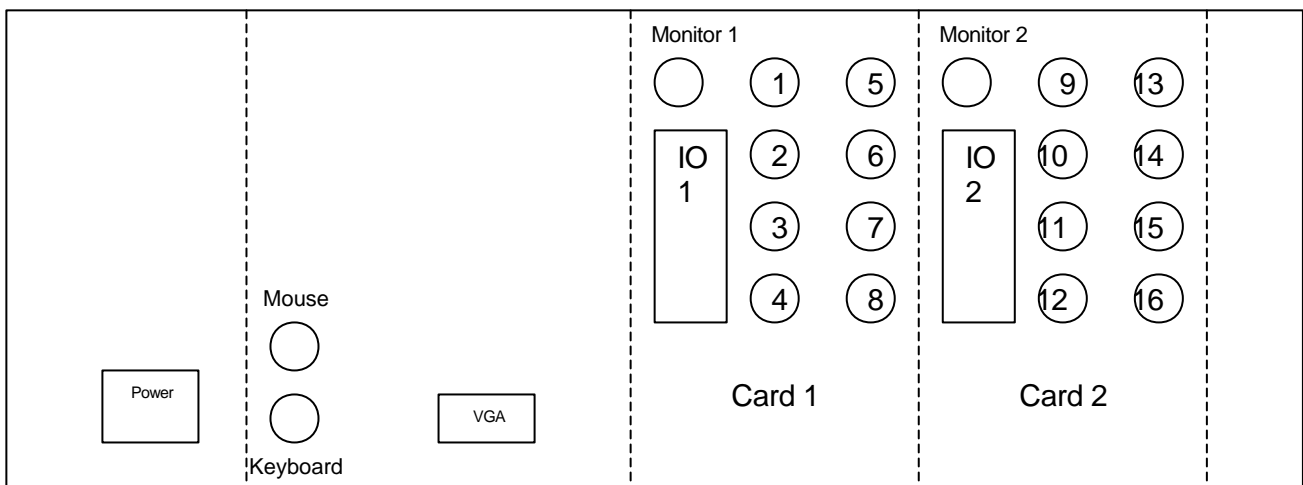
## 14 Installing Cameras

Figure 42 The back of the Witness system



Above is a picture of a 16 camera Witness unit. When installing the BNC camera inputs you must start with camera 1 at the top of the Witness capture board (This scheme should be labelled on despatch).

Note: The video capture cards will not necessarily be in this order on your Witness system



## 15 Glossary

### Administration

Log on access with the ability to add and delete users and change passwords for all except the engineer and supervisor.

### Archive

The **Archive** is an area of the system where images can be permanently stored. When these images are redundant, delete the Archived images by clicking on the **Empty Archive** button.

### Engineering

Log on access allowing access to all functions and to system configuration facilities.

### Go Live

Shows live images happening in the present time.

### Log Off

When finished using the system you exit the system by clicking on the **Log Off** button located at the bottom right of the screen. This will terminate your review session and take you back to the password entry screen.

### Password

A word chosen by the user to enable access to the system for approved users only and to ensure confidentiality. Please refer to your Administrator if you forget this information.

### Playback

Shows images previously recorded.

### PTZ

Pan, tilt, zoom camera

### Raid Images

These are special uncompressed images which are stored due to asynchronous alarm events.

### Recent Searches

Each time you do a search for images the details of the search are logged to your user name and listed under **Recent Searches**. Your five most recent searches will be listed within the recent search selector.

You can then go back and review any of these searches if you wish.

### Streamed Images

A sequence of archived images depicting an event.

### Time Select

Function allowing you to select the images from a specific year, month and day.

### Username

Your own name (sometimes only initials, etc are used) required in conjunction with your password to access the system. Please refer to your Administrator for this information.